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Private Sector Financing for Climate Change Adaptation in Cameroon

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Abstract

This study examines the role of the private financial sector in financing climate change adaptation in Cameroon, a country highly vulnerable to climate impacts due to its diverse ecosystems and socio-economic structure. Despite Cameroon's commitment to climate goals through its updated Nationally Determined Contributions (NDC) and national policies, private sector contributions to adaptation finance remain minimal, accounting for just 2.6% of total climate finance mobilized between 2019 and 2022. Using a quantitative survey method targeting 24 key financial institutions, including banks and investment companies, this research evaluates the extent and sectors of private climate adaptation investments in Cameroon. Findings reveal a significant gap in funding, particularly for climate-smart agriculture and other priority sectors, attributable to factors such as risk perceptions, limited regulatory incentives, and governance challenges. The paper situates these results within the broader context of growing adaptation finance needs estimated in the hundreds of billions globally as well as national efforts to integrate climate considerations into sectoral planning and budgeting. The study concludes by recommending strengthened policy frameworks, enhanced public-private partnerships, and inclusive finance mechanisms to unlock private sector capital for climate adaptation. This research contributes to filling a critical knowledge gap on private sector climate finance in Central Africa and offers actionable insights for policymakers and financial practitioners aiming to scale adaptation investments in emerging economies.

Keywords: *Climate Change, Climate Finance, Climate Change Adaptation, Banks, Private Sector*

JEL Classification: G21, G23, G28, O13, O16, O55, Q01, Q54, Q56

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Introduction

Cameroon referred to as "Africa in miniature" is highly vulnerable to climate change and extreme weather. The largest economy in Central Africa is geographically diverse with tropical forests covering 40% of the national territory and providing up to 8 million rural inhabitants with food (World Bank, 2022). Cameroon is one of the most vulnerable countries to climate change and extreme weather events, ranking 146th out of 182 countries in the (ND-GAIN) index (Notre Dame Global Adaptation Initiative, 2022). Temperatures increased by 0.86°C between 1974 and 2020 with extreme heat and precipitation peaking between 1991 – 2020 in the Northern and coastal parts of the country (World Bank, 2022). Climate change will impact the country's climatic zones differently over the coming decade. Under the worst-case climate scenario, temperatures and rainfall could increase by 3.9°C and 5.8 mm by 2045.

Climate change is increasing the vulnerability of several sectors including but not limited to agriculture and livestock, industry, forestry, health, water sanitation, tourism and urban development (Wouapi et al, 2025). Several policy documents have been developed and integrated climate change into the forestry, agriculture, water, health and environment sectors. However, the National Climate Change Adaptation Plan 2015–19 (Plan National d'Adaptation au Changement Climatique: PNACC) is the most significant policy document that focuses on (1) sensitizing citizens on climate change, (2) public information to adapt to climate change, (3)reduce vulnerability of major sectors and ecological zones, (4) integrate climate change adaptation into major sectors of the economy. In the absence of climate adaptation, climate change can undermine Cameroon's poverty reduction efforts and economic diversification (Wouapi et al., 2025).

Indeed, the Government of Cameroon signed the Paris Climate Accord in 2016, submitted its Nationally Determined Contributions 2021 to the United Nations Framework Convention on Climate Change (UNFCCC) (Fransen et al., 2022). The updated NDC state that Cameroon aims to reduce GHG emissions by 35% by 2030, which is conditional on obtaining finance (United Nations Development Programme, 2025). However, local governments have no requirement to set adaptation targets, prepare plans and strategies nor report on local implementation. Even so, program budgeting was introduced in 2020 with one sector (the agriculture sector) out of 37 budget programs benefitting from a climate budget plan.

Going forward, mobilizing private sector finance will be key to addressing climate change as private sector financing only accounted for 2.6% of total mobilized climate finance in Cameroon between 2019 – 2022 (OECD, 2025). Similarly, Mungai et al (2021) finds a 98% gap in funding for climate-smart agriculture, which has the potential to boost productivity and enhance climate change adaptation in Cameroon. The suggests that the private financial sector plays a limited role in the mobilization of climate adaptation finance. This study investigates the level of climate change adaptation finance originating from the private sector in Cameroon. Understanding the barriers to private sector engagement is critical, as research in contrasting economies demonstrates that factors such as occupational stress, knowledge hiding, and leadership dynamics significantly influence organizational performance and investment decisions, particularly in emerging markets (Haque, 2024; Haque et al., 2020; Urbański et al., 2024).

This paper is divided into five sections; Section 2 presents a literature review on climate finance in Cameroon; section three outlines the methodology and section four describe and analyses the results that emerge from the survey results. We conclude with policy recommendations and possible areas for future research.

Literature Review

While Africa has contributed less than 5% of total Global Green House Gas Emissions (GHG) (Diamini, 2022), it is most exposed to the worst effects of climate change. In fact, its social, political and environmental sectors are severely impacted by climate change (UNEP, 2009). This has bought focus on the need of climate finance to help developing countries meet their investment needs and adapt their economies to the present risks and challenges linked to climate change.

"Climate finance is not charity but a crucial investment in a sustainable future, urging developed nations to fulfill their financial obligations to support developing countries in addressing climate change" UN Secretary-General, António Guterres (United Nations, 2024).

As a result, climate finance is crucial in helping Africa address the climate crisis, especially as the continent faces growing adaptation and mitigation needs, requiring substantial support from international and local partners (Pillay et al, 2009; Pettengell, 2009; AU, 2023). As a result, it is important to assess the climate finance terrain for Africa, before looking at climate change adaptation finance, especially in Africa.

Climate Finance Needs in Africa

The Global Landscape of Climate Finance indicates that developing countries will require USD 212 billion per year until 2030 to effectively adapt to climate change. This figure is set to increase to USD 239 billion every year between 2031 and 2050 (CPI, 2023). Similarly, the UNEP Adaptation Gap Report 2023, estimates climate adaptation for developing counties at USD 130–415 billion annually and this is expected to rise after 2050 (UN Environment Programme, 2023). Meanwhile, recent analysis from the IPCC estimates climate adaptation costs for 2030 and 20250 at USD 127 billion and USD 295 billion per year for developing countries.

Other International trackers such as the LSE Grantham Institute state that emerging markets and developing countries will need USD 180 billion by 2025 and USD 325 billion by 2030 in climate investments (Bhattacharya et al., 2022). Likewise, analysis from the LSE Grantham Institute indicates an adaptation investment requirement for emerging markets and developing economies (excluding China) of USD 180 billion by 2025 and USD 325 billion by 2030 (Bhattacharya et al., 2022). While the precise values for climate adaptation finance may vary for developing countries, they are nonetheless significant when compared to local budgets and will require broad-based support both domestically and internationally. This challenge is compounded by the need for robust corporate governance and sustainable management practices, which are essential for creating an enabling environment for climate investment in emerging economies (Yamoah & Haque, 2023;

Dodoo et al., 2023).

Beyond estimates from International and multilateral bodies, some developing economies stated their climate adaptation cost after they signed the Paris Climate Accord in 2015 (UNFCC, 2015). According to the Nationally Determined Contributions (NDCs), required investment for climate adaptation between 2021–2030 was estimated at close to USD 1.1 trillion per year globally, even as the adaptation component of this figure is highly variable. By October 2022, 144 out of countries out of the 160 submitted updated NDCs and 62 countries have outlined the climate adaptation needs (Fransen et al., 2022; United Nations Development Programme, 2025). With the needs long-established, the table provides a snapshot of the projects and initiatives put in place since 2020 (United Nations Development Programme, 2025).

Key Policies on Climate Change

Cameroon adopted the Sustainable Development Goals (SDGs) and ratified the Paris Climate Accord in 2015. The government updated its Nationally Determined Contributions (NDC) in 2021, with new targets set for GHG emission reduction. Policymakers aim to cut GHG emissions by 35% by 2030 conditional on accessing more climate finance. This target is further broken down into a 12% (unconditional target estimated at $25.7 million) and a 23% conditional target that will be achieved with support from the international community through funding, technical capacity building and technology transfer (Republique du Cameroun, 2021; Ministère de l'Europe et des Affaires étrangères, 2022; Fransen et al., 2022).

Admittedly, 32 mitigation actions in four key sectors (forestry, agriculture, energy, and waste) drive the governments overall mitigation target. The updated NDC also include Cameroon's desire to turn climate-related challenges into opportunities across its 5 agro-ecological zones by 2035 (United Nations Development Programme, 2025). Proposed measures range from 21 adaptation actions in 8 sectors with an estimated cost of $31.85 million (World Bank, 2022). The updated NDC also reflects Cameroon's vision for adaptation, including the goal to turn climate-related challenges into development solutions in the country's 5 agro-ecological zone by 2035. Proposed measures include 21 adaptation actions across 8 sectors and themes, at a cost of US$ 31.85 million (Republique du Cameroun, 2021; Ministère de l'Europe et des Affaires étrangères, 2022). Cameroon published its Sustainable Finance Framework on Mach 10, 2025, which outlines examples of projects across all sectors that will be financed through climate finance. While this fall short of a comprehensive finance taxonomy, it provides a roadmap for international partners on how climate finance will be used in Cameroon (MINFI, 2025). These plans provide a framework by which climate finance will be managed across Cameroon and play an important role in transparency , accountability and governance.

The Landscape of Adaptation Finance in Cameroon

Cameroon faces significant challenges in mobilizing and deploying climate adaptation finance to address its growing climate risks. Before delving into the landscape of climate change adaptation in Cameroon, it is imperative to look at the policy frameworks and sectoral adaptation initiatives

to better contextualize climate adaptation finance. The climate finance adaptation finance landscape is driven by multilateral partnerships, national policies, and localized interventions. This include the International Monetary Fund's (IMF) 2024 Resilience and Sustainability Facility (RSF), which approved $183.4 million for Cameroon underscores the growing recognition of climate vulnerabilities in Central Africa (IMF, 2024). On March 12, 2025, the IMF approved about US$ 45.9 million in support of Cameroon's climate change agenda under the Resilience and Sustainability Facility (RSF) arrangement, making available (IMF, 2025). The European Union earmarked an EUR 85 million adaptation budget for 2021 – 2025 (GTAI, 2025) while the World Bank recently supported Cameroon with a $300 million financing to boost local governance and resilient communities project (World Bank, 2022b).

Despite putting its best foot forward, the government has not successfully mobilized domestic or external resources to meet its NDCs. The total costs of investments needed to achieve climate change adaptation and mitigation efforts are estimated at US$ 57,640 million (CFAF 28,713 billion) (Republic of Cameroon, 2025). A significant portion of these resources will be mobilized from development partners and the private sector. The European Union signed two agreements estimated at 29 billion CFA francs (44 million euros) for two climate adaptation projects namely, "Cameroon: green, inclusive and sustainable cities" (15.7 billion CFA francs (about 24 million euros) and "Cameroon: green and resilient north" (13 billion CFA francs (19.8 million euros) (Republique du Cameroun, 2022).

Similarly, the World Bank has approved $300 million to finance a local Governance and Community Resilience Project designed to strengthen capacity and resilience of local communities (World Bank, 2022b). The African Development Bank Group (2023) finds that 80% of the $2.7 billion raised between 2017–2021 from multilateral banks was directed at the public sector. Adaptation finance in Cameroon, like Africa, is skewed towards loans with over 57% of loans and 42% of grants (Harvey et al, 2022). Meanwhile, while 40% of climate-elated funding targeted adaptation studies, disbursement lacked or was slowed down due to bureaucratic bottlenecks (Overland et al, 2021). This compounds the reliance of Cameroon on international public finance as well as the systemic challenges in accessing equity (Afful-Koomson, 2015; Haq et al., 2023).

Sectoral Priorities and Localized Interventions

Cameroon's adaptation agenda is dominated by agriculture, energy, and water and Rubinov (2020) emphasizes that community-driven projects prioritize agricultural resilience, such as drought-resistant crops and irrigation systems, but are often misaligned with donor priorities.

Similarly, Okello et al. (2021) demonstrate how ICT-based market information systems in Kenya improved smallholder farmers' incomes, a model applicable to Cameroon's agrarian economies. Donors still prefer to fund direct innovations as opposed to democratizing access to innovations in Cameroon.

In the energy sector, decentralized solar projects have shown promise in bridging rural electrification gaps. Gray et al. (2019) highlight Tanzania's success with off-grid solar initiatives,

suggesting scalable solutions for Cameroon's energy-poor regions. However, Clottey et al. (2020) caution that value-chain interventions require robust stakeholder coordination to avoid exacerbating inequalities.

Challenges in Finance Mobilization and Equity

Debt burdens and governance inefficiencies hinder effective fund utilization. Cameroon's debt-to-GDP ratio (44% in 2023) constrains climate investments forcing it towards high interest loans (IMF, 2024). Virtanen (2020) notes similar challenges in Mozambique, where top-down conservation projects often neglect local land rights, undermining sustainability. It can impact not just climate but also economic activities including ecotourism (Haque, Faizan & Yamaoh, 2023; Haque, Haq, & Yamoah, 2023).

Gender disparities further complicate adaptation efforts with Abdulai et al. (2019) critiquing Ghana's social protection programs for failing to address women's vulnerabilities - a lesson for Cameroon, where women constitute 70% of the agricultural workforce but lack access to credit. This gender gap in access to finance mirrors broader challenges faced by women entrepreneurs in developing economies, where societal factors and occupational stress significantly impact business performance and access to resources (Haque & Yamoah, 2014; Urbański et al., 2024; Haque, Kaur, & Urbański, 2025). Mbugua et al. (2020) stress that inclusive finance mechanisms, like Kenya's social-network-based shock absorbers, could enhance household resilience in Cameroon's conflict-affected regions.

It is evident that donor finance is not sufficient to address Cameroon's climate adaptation needs and there is an urgent need to transition from donor and publicly funded climate adaptation initiative to private-sector led initiatives. Besides, there is limited research on private sector climate finance in Cameroon and there is currently no study to our knowledge that investigates the level of private-sector finance on climate change adaptation projects.

Research Methodology

This study employs a quantitative research design to investigate the perceptions and practices of banks and financial institutions in funding climate change adaptation in Cameroon. Data collection is conducted using structured surveys distributed via Google Forms, ensuring accessibility, reliability and ease of participation. The target population includes key stakeholders such as bank executives, financial managers, and decision-makers within financial institutions. A purposive sampling method is applied to select participants who are directly involved in banking and credit operations.

The questionnaire is designed to capture data on the level of funding for climate adaptation projects and the preferred sectors by financial institutions. It includes both closed-ended and Likert-scale questions to facilitate statistical analysis while allowing for nuanced responses. The collected data will be analyzed and interpreted via charts to ease interpretation. The survey includes 17 banks and 7 investment companies in Cameroon on how they fund climate adaptation projects in

Cameroon. We use multiple choice questions to easily categories responses and collect contact information for each respondent to ensure the validity and reliability of our results.

- Gender: The breakdown of the respondents are 80% male and 20% female.
- Type of Institutions: 60% were banks, 20% were investment firms and 20% are Microfinance Institutions.
- Types of Projects Financed: 80% of institutions finance agriculture and 20% finance coastal management.

Project selection: 80% of the projects financed were from clients directly and 20% were recommended by NGOs or civil society.

Findings and Discussions

In this section, a brief description of the questions from the survey and the results are analyzed in the section below.

1). How Much Climate Finance Do Banks Fund?

The results of the survey reveal that Cameroonian national banks gave an estimated $29 million worth of loans for climate adaptation projects in Cameroon (Figure 1).

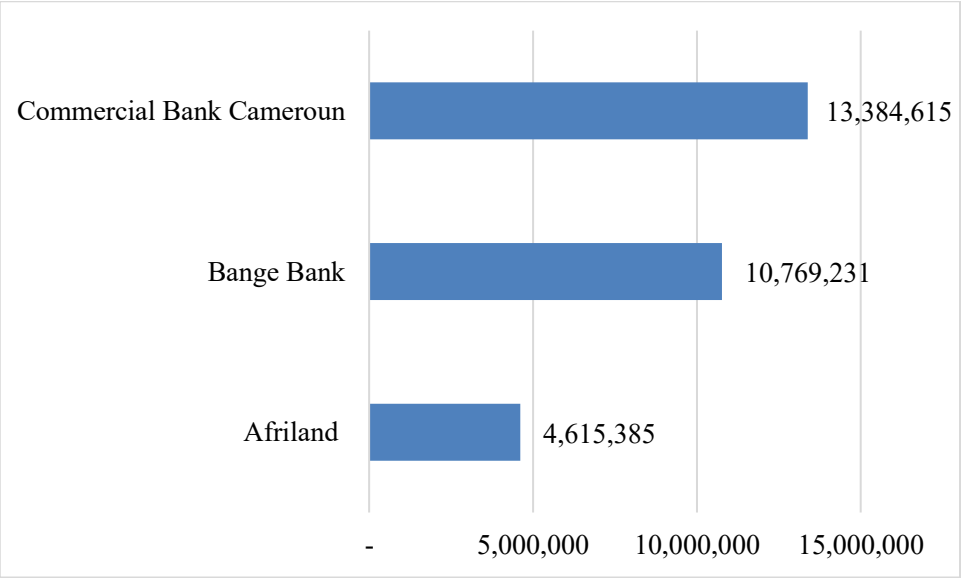

Figure 1: *Three Banks Give 99% of Climate Finance in Cameroon ($)*
Source: Field data

Three banks – Afriland Fist Bank, Bange Bank and Commercial Bank of Cameroon are responsible for 99% of climate adaptation funding while microfinance institutions and private equity or investment companies are responsible for 1% of total climate adaptation finance. Afriland's total assets ae estimated at FCFA 2000 billion or $ 3.2 billion, but the bank's strong regional focus in the Centre, West, East and Northern parts of country divert flows into vital local development and

entrepreneurial projects (Afriland First Bank, 2025).

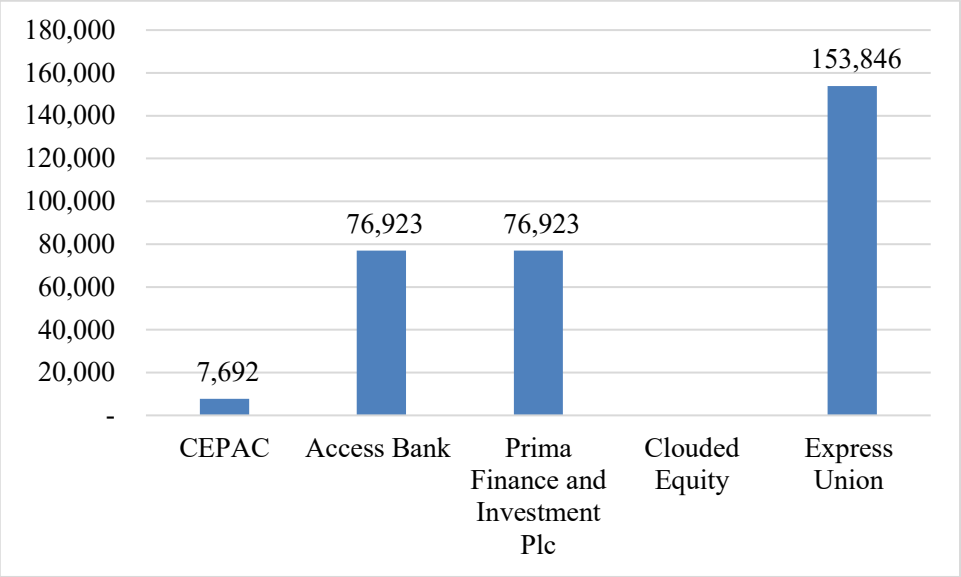

Figure 2: *Microfinance Institutions Funding Microfinance Adaptation projects*
Source: Field data

In Figure 2, it is clear that newer Microfinance institutions are more likely to lend to climate finance projects. Prima Finance & Investment obtained their license to operate in 2022 and is already issuing more green finance than most microfinance institutions who focus on basic agriculture and manufacturing in the informal sector (PFI, 2025; World Bank Group, 2022). Financial institutions do not currently disaggregate data on projects considered adaptation to mitigation in their portfolios. It is important to continually survey banks to better gauge what projects are being financed and ensure such projects ae properly categorized.

Microfinance institutions typically fund very small projects, but some ae increasingly funding climate adaptation projects. According to the survey results, these institutions understand the need for public-private partnerships in supporting the funding of climate change adaptation projects. In 2023, Finance Minister Louis Paul Motaze signed a CFAF200 billion loan guarantee to support public and private companies in Cameroon (PRC, 2022). Expanding such a guarantee explicitly for climate adaptation and mitigation projects will accelerate funding into vital projects that will reduce Cameroon's GHG emissions.

What Sectors are Financial Institutions Funding?

Over 90% of financial institutions fund climate adaptation projects in the agriculture sector, with a minority funding coastal management. This suggest that other priority sectors established in the national documents such as forestry, energy and waste are under financed. This nonetheless highlights the importance of the agriculture sector that employs over 60% of the working population in Cameroon and provides 1/3 of the country's foreign currency and 15% of its budget revenues (World Bank Group, 2022).

Gender Considerations are absent, but some banks are taking steps to remedy that?

All respondents were asked about gender inclusion and whether women are taken into consideration when banks finance climate adaptation projects. However, access bank and Prima Finance Investment are taking steps to design policies and documents that can support better inclusion or women when it comes to accessing climate finance. These efforts align with research showing that inclusive leadership and psychological empowerment are critical for fostering equitable access to opportunities and resources in organizational settings (Younas et al., 2022; Javed et al., 2018). 60% of banks have taken steps to include women in loans and credit, 20% speak to other groups and 20% have active policies and quotas when it comes to gender representation on loans.

Conclusion and Recommendations

The public sector, international partners and donors will continue to be the largest donors of climate adaptation finance. As Cameroon continues to improve its regulatory regime, the gradual shift to encourage more private sect finance is urgent and necessary to reach its climate targets as outlined in the Nationally Determined Contributions (NDCs) (Fransen et al., 2022). In Cameroon, the private sector will drive both innovation and investment in climate finance. Improving the business climate, the regulatory environment and creating guarantees for more private sector loans and credit are paramount. This requires not only policy reforms but also the development of leadership capabilities and innovative mindsets among financial sector actors, as digital leadership and strategic agility are increasingly recognized as drivers of SME growth and transformation in emerging markets (Imran et al., 2025; Haque, 2025). Capacity building for SMEs will enable them invest in scalable projects that create greater incentives over the long run for climate finance to flow into the Cameroon financial sector. Future research could survey bank climate finance survey over a longer period and gauge the understanding of financiers on the concept of climate change adaptation finance.

Policy Recommendations:

Strengthening Regulatory Incentives for Private Sector Participation

Policymakers should introduce targeted financial incentives such as tax breaks, reduced interest rates, and guarantees for banks and financial institutions that invest in climate adaptation projects. Furthermore, it is essential to develop clear and accessible climate finance guidelines and reporting standards, encouraging disclosure of adaptation and mitigation activities within financial portfolios.

Expanding Public-Private Partnerships (PPP) Focused on Climate Adaptation

Create dedicated PPP frameworks that facilitate collaboration between governments, financial institutions, and civil society, supporting large-scale climate adaptation projects in priority sectors such as agriculture and coastal management. Furthermore, policymakers and practitioners should

leverage government-backed loan guarantees specifically earmarked for climate-related investments to reduce perceived risks and crowd-in private capital.

Promote Sectoral Diversification of Adaptation Finance

Encourage financial institutions to expand funding beyond agriculture into underfinanced sectors like forestry, energy, and waste management, aligning investment with Cameroon's Nationally Determined Contributions (NDCs).

Enhance Gender Inclusion and Social Equity in Climate Finance

Mandate gender-responsive lending policies across all financial institutions, ensuring women and marginalized groups have improved access to adaptation finance. Greater efforts should be made to support the development of microfinance products and credit lines tailored to women entrepreneurs and smallholder farmers engaged in climate-resilient activities. Such targeted interventions are supported by evidence from diverse economies, where microfinance and social support programs have been shown to enhance women's micro-enterprise sustainability and economic resilience (Haque, Kot, & Imran, 2019; U-Hameed et al., 2019).

Build Capacity and Awareness for Climate Finance Among Financial Sector Actors

Implement regular training programs and workshops for bank executives, loan officers, and investment managers on climate risks, adaptation finance mechanisms, and project evaluation. Finally, it is essential to launch awareness campaigns targeting financial institutions to highlight the business case for climate adaptation investments and the benefits of aligning with global climate goals.

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AI-Powered HR: Transforming Performance Management Through Skills-Based Hiring

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Abstract

With the advancement of technology, organisations must consider how such advancements could be adopted to maintain competitive. This paper explores the role of using Artificial Intelligence (AI) in HR to transform performance management using skills-based hiring. Many organisations have used AI in HR to make suitable hiring decisions through human interventions. AI uncovers the skills and competencies needed for the job and makes appropriate decisions on how the hired employee can perform better. This study uses available literature to analyse different studies on AI's role in HR using a skills-based hiring strategy. The study concluded that AI would transform how performance management is monitored, which will help the organisation adapt to the technology. Moreover, through AI, managers can make decisions quickly and provide immediate feedback to the employees. However, the organisation needs to consider the challenges associated with AI. This paper provides a comprehensive overview of various aspects of skills-based hiring and offers practical insights into its long-term adoption for supporting performance management. Theoretical frameworks related to skills-based hiring and examples of real-world challenges HR professionals face are explored.

Keywords: *Artificial Intelligence, HR, Performance Management, Skill-Based Hiring Strategy,*

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Systematic Literature Review

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Introduction

Artificial Intelligence (AI) research dates to the 1950s when Alan Turing published his paper on computing machinery and intelligence, exploring the possibility of machines thinking like humans (Turing, 1950). Over the years, there has been a surge in research on the impact of AI on businesses and how it has revolutionised the business landscape, making it a popular topic for further investigation. AI can support various business functions, including e-commerce, operations, marketing, HR, and after-sales services (Ruiz-Real et al., 2021; Getchell et al., 2022). With the emergence of a hybrid working culture, AI can be leveraged in various ways to achieve desired outcomes. Moreover, AI can be crucial in making informed decisions and enhancing hybrid working environments' potential. AI-powered analytics can monitor and evaluate employee well-being, demonstrating AI's role as a supportive partner in maintaining a healthy work environment. This enables organisations to comprehend the impact of a hybrid working environment on employee well-being, identify areas for enhancement, and provide the necessary support to their employees.

Regarding artificial intelligence (AI) in HR, there are various areas to consider, including recruitment, onboarding, training, performance management, employee engagement, compensation management, employee retention, and career path. However, there is limited evidence on how AI can be utilised in HR activities to support operations using this new technology. AI in HR can automate tasks such as onboarding new employees, training and automating benefits management. Different companies are already using online portals for administrative purposes. This paper focuses on the role of AI in transforming skills-based hiring in HR. Performance management is a crucial aspect of HR that enables employees to receive recognition and constructive feedback while helping management identify high performers and future leaders for retention purposes. However, HR is often busy with day-to-day work, which leaves less time for providing feedback and can result in dissatisfied employees and resignations. AI-powered performance management can help to address this issue by using analytics to improve the relationship between HR and employees, promoting transparency, fairness, and unbiased decision-making. This approach can improve productivity and retention and increase employee satisfaction, benefiting the organisation and leading to a more efficient workforce aligned with the business's strategy. HR should prioritise skills-based hiring over traditional recruitment methods to attract high performers.

This discussion paper will explore how AI can help HR transform skills-based hiring during digitalisation and machine learning, providing insights into the potential benefits of AI in HR. This study answers the research question: How can AI transform performance management using a skills-based hiring strategy? To address this research question, the paper is organised in different sections: Section 2 provides a brief review of the literature in the field of the recent debates on AI on the role of AI in HR activities, skills-based hiring and underpinning theories of skills-based

hiring. Section 3 discusses the study's methodology, and section 4 discusses the role of AI in skills-based hiring. Section 5 presents the impact of AI in performance management. Section 6 details the challenges of HR in skills-based hiring. Section 7 presents the conclusion of the study.

Literature Review

The Role of Artificial Intelligence in HR Activities

IBM's research found that 77% of businesses are utilising or exploring the possibilities of Artificial Intelligence. As per Dennison (2023), AI-powered software provides many benefits, such as improved accuracy, efficiency, and productivity in various tasks, enabling businesses to save time and resources. While only 35% of companies currently use AI, 42% are exploring its implementation for future use. Some multinational companies have successfully implemented AI to hire diverse staff, including anonymous resumes and interviewees. Furthermore, AI is also being utilised in the healthcare industry, with positive results in oncology. AI is widely used in retail, banking, logistics, travel, education, IT and real estate (Paul et al., 2023). In the retail sector, AI is critical in helping organisations meet customer expectations (Paul et al., 2024). Universities also use AI to screen candidates, conduct admission interviews and select students for university admissions.

According to Kanade (2022), Artificial Intelligence (AI) refers to the intelligence of a computer or machine that enables it to replicate human abilities. With various AI technologies, machines can plan, act, and learn like humans. Implementing AI in HR can relieve administrative tasks and paperwork, allowing HR professionals to utilise their time and focus on building relationships with employees and devising strategies. For instance, AI can be employed in HR for talent acquisition, employee learning and development, engagement and retention. HR should identify the questions they need to answer, the issues they want to address, the benefits they seek, and the data required to obtain better results; AI can be an effective tool in this respect.

Heene (1997) conducted research that suggests that the use of competence-based models is an effective tool for human resource management in organisations, particularly when it comes to performance management. However, Liddon (2006) argues that the competence model should focus on employees' primary abilities, including knowledge, skills, abilities, and behaviours, and the business strategy accordingly to improve employee output. Implementing such strategies can help organisations develop their working models and improve selection, assessment, performance management, training and development, and employee engagement methods, all of which can contribute to better career development. Jain (2017) conducted a study on the use of AI in HR, particularly in functions like recruitment, selection, training, development, and reward management.

The work environment is critical for employees, especially in a hybrid working culture. The Covid-19 pandemic impacted different challenges to the work environment of the people. However, some companies were flexible to offer permanent work from home (Lavelle, 2020). According to Aropah et al. (2020), a comfortable workspace can motivate employees to perform better in their daily

tasks. Previous studies (Gajendran & Harrison, 2007; Baltes et al., 1999) also suggest that the work environment positively impacts job performance. Muchtar (2017) suggests that employees can achieve better results with a suitable work environment. Therefore, when evaluating employee performance, it is crucial to consider the work environment factor, particularly during a hybrid working culture (Orissa & Shahrom, 2022).

The hybrid work culture is associated with significant limitations due to the reduced control of supervisors over employees and inadequate support from supervisors, which can negatively affect employee performance and create uncertainties and tension (Van der Lippe & Lippenyi, 2019). Research indicates that team influence can also impact workers as group cohesiveness is positively linked to performance, but lack of interaction can lead to less cohesiveness (Barker, 1993; Sewell, 1998; Cohen & Bailey, 1997). Artificial Intelligence (AI) is considered an appropriate tool to record employee performance and provide historical data for comparison.

Human Resources Management has two main functions: recruitment and selection of employees and their compliance and assessing employee performance and development. Traditional periodic performance management reviews used by HR have several problems, including errors and bias, especially in performance-related pay. The use of AI-enhanced tools for evaluation leads to more accurate and fairer assessments, reducing the time managers require. AI can assess performance more frequently, allowing for predictions of employee performance (Charbonneau & Doberstein, 2020). AI can also integrate with real-time learning modules to help employees improve their performance. AI in HR can enhance decision-making by professionals by generating more accurate and less biased outcomes, as AI processes data faster and more accurately than humans (Johnson et al., 2022). However, the use of AI in HR is a debatable topic, and companies must consider the ethical implications of its implementation in the workplace. Companies have access to employee data, which they can use in multiple ways, and the ethical performance of employees is influenced by the pressure to perform at work and the organisational and industrial culture rather than independent sources of information (Thiam et al., 2019).

According to several studies (Paul et al., 2024; Duggan et al., 2020; Evans & Kitchin, 2018; Gandini, 2019; Williams & Beck, 2018), using Artificial Intelligence (AI) in the workplace to evaluate employees' performance can provide real-time feedback or comparisons, which can be used as indicators to assess their daily performance and performance goals (Holland et al., 2017; Leicht-Deobald et al., 2019; Woyke, 2018; Zax, 2013). However, it is essential to note that performance evaluation can have a negative impact on motivation (Lepper & Greene, 1975). However, feedback can help employees learn and improve their skills (Vallerand & Reid, 1984). Through AI, employees can receive frequent and effective feedback (Stark & Pais, 2020), which is more updated than traditional performance appraisal systems. However, providing only comparative feedback can hinder the information from the workers (Duggan et al., 2020), which can impact job satisfaction and employee behaviour (Gagne et al., 2021), making employees less autonomous and more competitive.

Implementing machine learning in HR processes has revealed many innovative ways to apply AI in HR functions. Furthermore, various studies have discussed the increasing impact of technology

on the HR process, which is growing more rapidly than traditional HR research findings.

Skills-based hiring

The impact of COVID-19 and increasing inflation rates has potentially led to a rethink of employers' human capital talent management approach (Hancock et al., 2022). During the growth of technology, it is essential to consider skills-based hiring from HR rather than relying on traditional hiring to meet the organisational needs. Often, HR recruits' staff with qualifications and experience but lack the appropriate skills suitable for the job. Recruiting staff who lack basic skills for the job is time-consuming and not budget friendly. To remove this paper ceiling, many big companies such as Boeing, Walmart, and IBM started the programs that gave them importance. IBM began its programs with an emphasis on skills-based practices. They have removed degree requirements from specific job postings, which demand more skills-based practices to help employees progress from lower to higher-salaried jobs (Hancock et al., 2022). Hiring employees with appropriate skills can increase the number and quality of applications and give internal employees opportunities, leading to excellent retention. It will also create better job opportunities and a diverse employee pool. Through this, employee morale will increase, and their motivation and performance will be boosted as they already have the specific skills for the job.

As per McKinsey's report, Alliance conducted a ten-week Accelerator program to help employers consider skills-based practices when hiring employees (Hancock et al., 2022). The participants were mainly Small and Medium-sized businesses and a few big companies. One of the participants created skills-based job postings; out of 18 qualified applicants, one was hired, and the rest were given other positions within the organisations based on their skills. Also, participants agreed that skills-based job postings increased applications from broader applicants. As per Hunter and Hunter (1984), skills-based hiring is five times more predictive of job performance than hiring for education and more than two times more predictive than hiring for work experience. Santhosh and Lewis (2021) concluded that employees without degrees would stay 34 per cent longer than employees with degrees. As per McKinsey's report, more than 80 per cent of workers who shift to new roles with another employer have the skills to advance in the previous job, but they have not been given internal opportunities to move roles (Hancock et al., 2022).

Skills-based hiring is rising nowadays. First, the reasons for this are the gap in skills for the job roles. As per McKinsey's survey, nearly 9 out of 10 executives agree that their organisations are already experiencing a skills gap or expected within the next five years. It is also challenging for companies to determine applicants' skills from their CVs, and it is difficult to decide whether they are accurate. As with the current technological advancement, HR can adopt AI for skills-based hiring. The second reason is the nature of the current jobs in the changing job market. Many jobs have evolved and are in high demand, so the skills employers were accepting before are changing rapidly. The more demanding skills include interpersonal, cognitive, and systems skills, which have changed from the previous job market demands. It is essential to predict what kinds of new jobs may come into existence shortly (Bakhshi et al., 2017).

For example, AI is now prevailing, and people need to acquire AI skills that are not obtained from

traditional qualifications. The third reason is the increase in online learning to develop adequate skills. Through this, applicants can acquire the skills needed for the jobs through online courses if they cannot achieve a traditional university education. The fourth reason is that there are alternate career paths and self-employment. Millennials, especially, switch jobs more quickly than any other age group. Also, they are more flexible in acquiring new skills (Keeling, 2024). As per Korn Ferry, by 2023, there will be a talent shortage of more than 85 million people (Udemy, 2024). To rectify this, HR needs to reskill and upskill their existing employees and deepen their skill sets. Skill gaps address understanding what skills the employees lack and how to rectify them. The World Economic Forum Future of Jobs Report 2023 discovered that 6 in 10 employees need training before 2027, and they do not have enough resources to make it happen (Udemy, 2024). As per Deloitte, only 5% of executives believe they are investing in the team's upskilling and reskilling to cope with the fast-paced job market (Udemy, 2024).

Underpinning Theories of Skills-based Hiring

In this paper, we will be focussing on different theories associated with skills-based hiring. The first theory is the Human Capital theory (Schultz, 1960), which has its roots in the early 1960s. As per the theory, human capital consists of the knowledge, skills and abilities of the people employed within an organisation, which results in increased productivity and quality output. The individuals with knowledge, skills and experience are viewed as assets. This theory emphasises investment in education and training, which cause long-term benefits with significant returns. Also, it focuses on the health and well-being of employees, as a healthy workforce is more productive and contributes to the organisation's economy. Individuals acquire skills and knowledge through education and experience; skills-based hiring aligns with this theory by specifying the importance of skills acquired by the candidates.

The second theory is the Resource-Based view (RBV), which states that the organisation's competitive advantage depends on valuable resources and capabilities (Barney, 1991; Penrose, 1959; Peteraf, 1993). This supports skills-based hiring, as the candidate's skill can be considered a valuable resource through which the organisation can achieve its competitiveness. The Competency-Based theory focuses on identifying and developing particular competencies or skills for better job performance at the organisational level. Skills-based hiring aligns with this theory by assessing the applicants' competencies for the role.

When considering cognitive load theory (Sweller, 1988), it is essential to avoid overloading the instructional methods with the capabilities of the individuals. This will hinder the learning process. When applied to hiring, skill-based assessments aim to decrease the cognitive load by concentrating on practical skills and making the evaluation more effective. Also, job matching theory (Jovanovic, 1979) focuses on employees being more satisfied and progressing within their roles when there is a good fit between their skills and job requirements. Through skills-based hiring, the employees will be satisfied and more aligned towards their abilities and the demands of the position. The above theories mainly concentrate on the employees' skills and how they can fit the job role and organisation well.

Research Methodology

The present study uses a comprehensive literature review and further discusses the role of AI in HR to transform Performance Management using a skills-based hiring strategy. A clear set of inclusion and exclusion criteria were established to ensure that only relevant studies were considered. The inclusion criteria used articles to focus on AI technologies, skills-based recruitment, performance management, with a particular emphasis on peer-reviewed journal articles, conference papers, and industry reports published in English. Studies were excluded if they did not directly address the application of AI in recruitment, or if they focused on areas outside of the scope of skills-based hiring, such as general AI development or non-recruitment-specific applications.

The keywords were used to search databases such as Google Scholar, Web of Sciences, Sage, and ProQuest to carry out the discussions. Since the topic is new, some critical data from the authenticated websites were also considered. The keywords were deployed with different algorithm searches such as (“Artificial Intelligence” OR “AI” OR “Robotics”) AND (“Human Resources Management” OR “HRM” OR “HR” OR “HRM functions” OR “Human Resources functions”) AND (“Skills-based hiring strategy” OR “Performance Management” OR “employee-level outcome”). A thematic analysis was performed to generate themes and codes.

In terms of the timeframe, only literature published between 2010 and 2025 was included in the review. This period was chosen to capture the rapid evolution of AI technologies and their increasing application in recruitment practices over the last decade. The initial search returned approximately 200 articles, of which 100 were screened based on titles and abstracts. After applying the inclusion and exclusion criteria, 75 articles were selected for a full-text review. From this, 45 articles were included in the final analysis. These articles were carefully analysed to identify recurring themes, trends, and gaps in the literature.

For the thematic analysis, the process of thematic coding was employed. The coding involved several steps: first, all relevant articles were read in detail, and key quotes were extracted based on their relevance to the research questions. Next, these quotes were organised into preliminary codes representing emerging themes. These codes were then reviewed, refined, and grouped into broader categories. Thematic saturation was reached when no new themes emerged from the data. The final themes were validated by cross-checking against the original articles and ensuring that they accurately reflected the broader trends and insights in the field. This process helped to ensure the robustness and consistency of the findings.

Findings and Discussions

Role of AI in skills-based hiring

HR is experiencing a significant challenge to recruit the right person for the right job. With the rapid increase of technology and AI’s help, it is more accessible in organisations nowadays. AI can assist HR in planning and making essential recruitment decisions (Karatop et al., 2015). AI can

attract and select a talented pool of employees and make decisions faster to handle large volumes of information within a limited time than human capacity (Torres & Mejia, 2017). Using AI algorithms, organisations can improve in identifying candidates more suitable for the job (Budhwar et al., 2022). Also, AI algorithms helped HR identify appropriate candidate profiles, removing biases such as race, gender, and sexual orientation, which would have been impacted if there had been human judgements in the recruitment process.

Using AI in skills-based hiring helps HR in many ways, as human decisions take time. AI can check candidates' backgrounds from public data sources, such as their previous employment and social media profiles. The online Interview Software helps assess facial expressions and speech patterns to assess the candidate's fit within the organisation (Kalia & Mishra, 2023).

Many debates exist on how AI can be used in skills-based hiring, as different organisations still need advancements. In this fast world, HR faces different challenges during recruitment as they need to scan through the CVs, which can also cause bias and missed opportunities. This problem can be rectified through AI as AI can screen CVs and objectively assess applicants' skills and consistency across the process. It is essential to consider the diverse workforce while recruiting. Sometimes, human judgement can be biased unknowingly, affecting the hiring process. AI can eliminate this bias and prioritise the applications only because they have the skills. Through this, the organisation makes sure that skills are valued. HR can also use AI to generate job descriptions and applications. However, the candidates also seek help from AI and use AI to craft their CVs.

Nevertheless, through the new technologies, organisations can accurately assess their skills. AI can also detect undesirable behaviour when the candidates are asked to take assessments such as quizzes and tests. Also, technology can detect whether the actual candidate is taking the tests or whether they are cheating (Koyen, 2023). AI is considered a powerful decision-making tool in which the machine makes the analytics, which HR can analyse and make the choices. For example, AI can identify the strengths and weaknesses of candidates through social profiling and databases. By inputting human judgement into this data, organisations can make the right hiring decisions and predict employee performance for the longer term. Incorporating AI in skills-based hiring allows organisations to become transparent, which is valued by the employees and stakeholders. As the organisation adapts AI into their hiring practice, it is essential to address the ethical concerns.

Organisations must be transparent about algorithmic bias and that hiring is based only on skills. Communication is essential between HR, recruiters and AI developers to balance human decision-making and technological interference (Headworth, 2023). Before skills-based hiring, the organisation can use AI to run an automated skills gap analysis, which helps companies address the areas if they need any help from outside and develop some programmes within the company to address those gaps.

Impact of AI in Performance Management

Performance management is a widely discussed topic through which employees receive the

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recognition they deserve and constructive feedback. This will also help the management find the actual performers and future leaders to focus on their retention. The employees' actual performance depends on their skills for the job role, and if the skills are matched with the job role, then the employee can perform better, and that performance can be measured again using AI analytics. Nowadays, HR is very busy with day-to-day work, which leads to less time to provide constructive feedback and dissatisfied talented employees and their resignations. AI-powered performance management can reduce this situation by using analytics to enhance the relationship between HR and employees. This will also allow the organisation to become transparent, unbiased, and fair to the employees. Through this approach, the organisation can attain improved productivity, better retention, and increased satisfaction of employees. This also positively impacts the business and leads to a more efficient workforce concentrating on the business strategy.

Performance management benefits both employees and the organisation. Employees in the organisation are keen to learn about their performance. However, the organisation is aware of the performance level of the staff and decides who needs the training to improve and increase their performance or update their skills. Also, evaluation is essential to determine who will be penalised, rewarded and promoted depending on employee skills. According to Orlikowski (2000), organisations must use the technological developments that allow them to develop their business to gain a competitive advantage. Through AI, the organisation can improve its performance appraisal systems and encourage employees to provide the correct evaluation system results (Sholihin, 2013). Also, especially with a hybrid working culture, it is essential to track and record the performance of the employees. AI can make this process less time-consuming, and accurate data has been generated.

Artificial intelligence (AI) has become essential to human resources (HR) and has impacted various areas, including recruitment, learning, and employee experience. The next area where AI is expected to make a significant difference is performance management, which relies heavily on data-driven processes that align well with AI and machine learning (ML) technologies. Traditional performance management techniques are often biased, inaccurate, and time-consuming. They rely on subjective evaluations based on recent accomplishments and fail to capture an employee's overall performance potential. On the other hand, AI-powered performance reviews use a vast amount of data and make predictions based on the current review and the employee's performance and career history. This helps set accurate goals, identify potential promotions, and calculate incentives.

Replacing periodic performance reviews with ongoing reviews has numerous benefits. It allows for continuous feedback and course corrections, making the organisation more agile and flexible. Research suggests that up to 60% of employees prefer continuous feedback. AI-powered systems can continuously collect data from various sources, such as written communication between employees and calendars, providing real-time information on employee performance. This helps managers make quick decisions and provide immediate feedback.

Challenges of HR in Skills-based hiring

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As per McKinsey's survey before starting the Employer Accelerator program, the participants responded that sourcing, skills validation and increasing skills-based practices are the most common challenges they faced when implementing a skills-based approach. Similarly, the study conducted by McKinsey in 2021 with 300 SMBs revealed that sourcing and validation are considered the top two hiring challenges they have faced, which is displayed in Figure 1. From the figure, it can be interpreted that validating skills and sourcing job seekers with the right skills appear to be the top two challenges faced while hiring, whereas identifying hiring needs and creating job posting appears to be the least challenging.

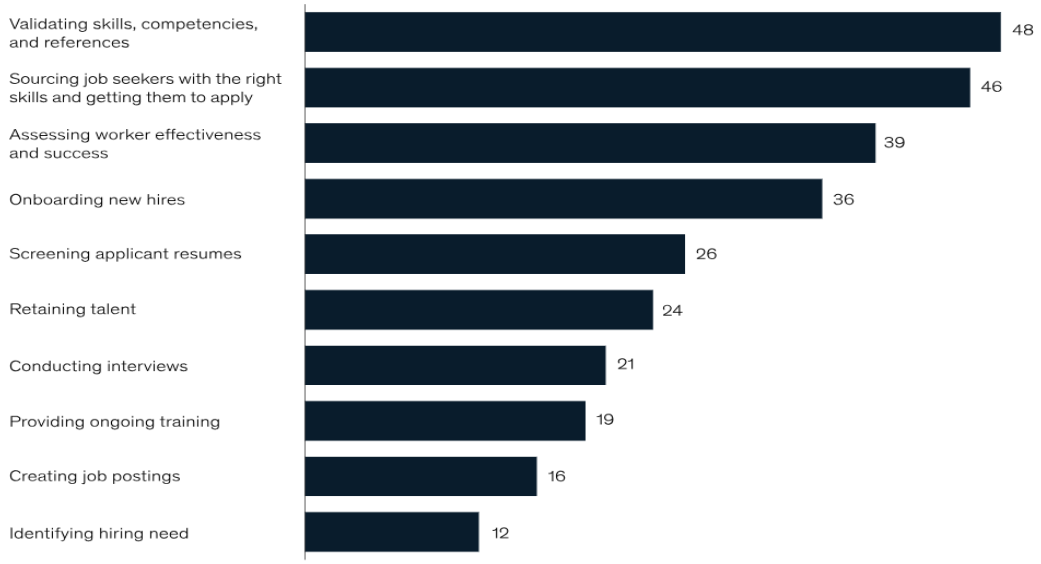

Figure1: *Top hiring and talent challenges, % of respondents indicating step as a top 3 challenge Source: McKinsey State of Hiring Survey (2021)*

The other challenge HR faces is that modern AI platforms must still be functional and fully automated. The most important thing is to use a prompt correctly or describe what AI is supposed to perform. The prompt must be more specific when asking AIs to screen the applicants. HR needs to have critical thinking and problem-solving skills as the output received from AI needs to interpret and analyse the results. When considering the challenges HR faces, they need to clearly understand how to decide which jobs need to produce better candidates and how to communicate the opportunities, especially for lower-wage positions of workers without degrees. HR needs more confidence in discovering better ways to validate employees' skills through interview questions or assessments. HR needs to have a clear understanding of what skills are required for each job role.

Many hiring managers are still resistant to implementing skills-based hiring methods. This is due to the focus towards skills-based hiring and avoiding bias, which makes HR accused of their hiring decision (Keeling, 2024). Some organisations are not up to date with the technology, and there are still outdated hiring tools that cannot support skills-based hiring. In some organisations, HR managers use unnecessary job requirements in the advertisement, such as a college degree and years of experience, even if the role is unnecessary. The organisation needs to allocate the resources to upskill and reskill the workforce to increase retention and keep valuable skills in-house for the long-term benefit (Keeling, 2024).

Conclusion and Recommendations

In conclusion, AI will transform how performance management is monitored, which will help the organisation adapt to the technology. Also, through AI, managers can make quick decisions and provide immediate feedback to the employees. However, some challenges associated with AI also need to be considered by the organisation and implemented along with skills-based hiring. The resource-based view is considered vital as it is related to organisational competitiveness and is based on the skill set of the employees. This research study has significant implications for both theory and practice. It aims to provide valuable insights into how employers can successfully incorporate AI to hire employees with the necessary skills, enhance performance, and improve management. Additionally, organisations must communicate to their employees the purpose of AI adoption and how it affects performance evaluation.

The research also intends to uncover patterns that identify and explain skills-based hiring and how it impacts individual employee performance. This study serves as a foundation for HR Analytics, Head of HR, and HR Directors to recognise the importance of implementing AI in HR. Furthermore, it gives AI developers a better understanding of the gap between current AI usage and the desired expectations. The study also recommends ways for HR to implement AI for skills-based hiring and performance management actively. As AI is a relatively new area, further research needs to focus on the application of AI in skills-based hiring by HR, where it can screen, validate, and assess job applications by considering the opinions of HR managers/directors. AI is only applied in larger organisations as they have the budget to implement these resources. It needs to consider the application of AI in skills-based hiring for medium and small and medium businesses. To answer this question, the data requirements for implementing AI in skills-based hiring are essential.

Limitations of this study and future research directions

This study has several limitations that provide opportunities for further research and improvement. Future studies could expand the scope of this work by incorporating empirical validation through the collection of primary data, such as surveys, interviews, or case studies, to strengthen the reliability and practical relevance of the findings. Also, comparative analyses between different countries could be conducted to examine how cultural, regulatory, and economic contexts influence the adoption and effectiveness of AI in skills-based hiring. Finally, future researchers may benefit from exploring sector-specific applications of AI in recruitment, as the implementation, challenges, and outcomes of AI-driven skills assessment may vary significantly across industries such as technology, healthcare, finance, and manufacturing.

As some of the challenges faced by HR have been mentioned before, it is essential to clearly understand what skills-based hiring means and how AI can be further explored. Future research should focus on the challenges and provide a framework for reducing them, and then HR can confidently recruit based on skills. Future research also needs to consider how HR can rectify job advertisements, mainly by focusing on skills and the challenges faced by this. Future research

needs to be conducted with some primary evidence from HR to explore this further.

Also, it is crucial to implement AI ethically and morally. Further research can focus on identifying the areas that can contribute to understanding the impact of AI in skills-based training and lead them to practical implementation.

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Emotional Intelligence, Trust, Dignity, Psychological Contract, and Staff Performance: An Exploratory Evaluation of UK's Migrant Domiciliary Care Workers Lived Experience

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Abstract

Due to the deteriorating care quality in the United Kingdom's (UK's) social care sector, we link managerial emotional intelligence, psychological contract, and care quality in the UK's domiciliary care sector. Based on in-depth semi-structured interviews with 44 migrant domiciliary care workers in London, we utilized a combination of interpretative phenomenological analysis and hermeneutic phenomenology to investigate our participants lived experiences through the lens of the psychological contract literature. We found that participants faced personal challenges, poor relationships with their managers, and workplace challenges including communication, other, time management, work-life-imbalance, and safety and well-being concerns, which combine to influence their psychological contracts. Unfortunately, participants were erroneously treated as a homogeneous group who require a standardized approach to managing and staffing, despite their heterogeneity. Based on the reciprocity in psychological contracts, we conclude that, for improved care quality, employers/managers must first fulfil their obligations in the psychological contract with individual employees. This is one of the pioneering efforts to examine the relationships between managerial emotional intelligence, trust, dignity, psychological contract, employees lived

experiences, and care quality of the UK's migrant domiciliary care workers.

Keywords: *Psychological Contract, Migrant Domiciliary Care Worker, Emotional Intelligence, Trust, Dignity, and Care Quality*

JEL Classification: I11, I18, J15, J28, J41, J81, M12

Introduction

This paper links psychological contract breaches in the United Kingdom's (UK's) domiciliary care sector to a lack of managerial emotional intelligence, lack of trust, lack of dignity, and the poor care quality in the sector. Due to skill shortages, excess workload, intense competition, and constant regulatory changes, employers and employees in the UK's social care services are constantly rethinking their mutual obligations. While the employees continually review what they are owed by their employer and what they owe their employer (i.e., their psychological contract), employers continuously renegotiate, alter, and even breach the employment contract to fit the changing business' needs. Researchers argue that psychological contract breaches are common in sectors with high migrant workers, especially, where the migrant workers' long-term job security can only be guaranteed via a certificate of sponsorship (CoS), and in return for absolute diligence and longer-term loyalty of the migrant worker (Lampridis and Billè, 2023; Quadery et al., 2020).

This is the case with the UK's social care sector, where the migrant domiciliary care worker must constantly meet very high job expectations to earn a CoS, and, thereafter, even higher expectations to keep it, otherwise, they could face an immediate deportation to their resource-constrained home countries. Consequently, the migrant domiciliary care worker must ignore any perceived psychological contract breach by their employers, otherwise they could face unfounded allegations by their employers. Yet there is still a lack of research examining the causes, extent, and the consequences of psychological contract breach in various occupational settings (Li and Dai, 2015), as the mainstream psychological contract literature focuses mainly on the blue-chip companies (Kutalua et al., 2020). We view this a significant omission in the theoretical development of the psychological contract literature, and which our research is set to address in the unique context of the migrant domiciliary care workers lived experience in the UK's social care sector.

Consistent with the UK's growing ageing population (McKenna et al., 2020), the domiciliary care sector is flourishing (Turnpenny and Hussein, 2021). But unlike the residential care settings, domiciliary care services are delivered in the clients' home, denying the care workers of supervisory and peer support services. Due to the nature of the tasks involved, the domiciliary care roles are mostly performed by migrant workers (Skills for Care, 2026; 2026a, 2026b) who face expensive visa renewal fees and immigration charges (Williams, 2012).

Consequently, a high rate of mental, physical, and emotional strain, anxiety, burnout, insomnia, depression, heart diseases (Hussein, 2018; Turnpenny and Hussein, 2021), turnover (Skills for Care, 2026a, 2026b) and even suicide (Cannings-John et al., 2023). Unfortunately, these migrant domiciliary care workers face limited career progression opportunity, poor working conditions,

and a lack of standardization of training and qualifications (House of Commons, 2023; Turnpenny and Hussein, 2021). Yet the migrant domiciliary care worker is willing to accept below the national minimum wage (Van Hooren, 2012; Da Roit and Weicht, 2013), and coupled with family pressures from their home countries, these add to their vulnerabilities (Hussein et al., 2011, Cunningham and James, 2014). These highlight the need for more research examining the working conditions, wellbeing, and psychological contract breach in the UK's social care sector.

Although the psychological contract has become a key focus of the management and employment literature, existing research on the psychological contract has focused mainly on the blue-chip companies and multinational corporations (MNCs). Consequently, we lack research with a more critical and discursive analysis on the psychological contract in other work settings. For instance, research examining psychological contract breach in the social care sector can challenge the dominant theoretical assumptions on psychological contracts and suggest a different research agenda to that which has dominated the existing debate in the psychological contract literature. Therefore, we call for a narrative approach to studying psychological contracts, which challenges the ideologically biased approach inherent in contemporary work and employment literature.

Our study makes five complementary but distinctive contributions to psychological contract literature. First, we attribute a high disregard for employees' wellbeing in the UK's social care sector to the poor care quality which has continuously tormented the sector in recent years, as poor care quality can signify a response to perceived violations of the psychological contract. For instance, researchers argue that a prevalence of psychological contract breach can cause a false impression that a breach occurred, even when an actual breach did not occur, due to a lack of trust and unmet expectations (Koomson, 2021; Lambert et al., 2020).

Earlier research also links the psychological contract to organizational citizenship behavior (OCB) (Kraak et al., 2020; Piccoli et al., 2017; Restubog et al., 2008). Second, we link a lack of trust to perceived job insecurity, and a consequent high turnover. Thirdly, despite the influence of cultural differences on perceptions (Gracia et al., 2015; Zagenczyk et al., 2015), we link trust, emotional intelligence, psychological contract, dignity, and care quality standard. Fourthly, drawing on the traditional input-output analysis theory, we argue that employers should only expect employees' fulfilment of their obligation if they themselves have fulfilled theirs. Finally, as we reaffirm reciprocity in psychological contracts, we argue psychological contract a key to understanding human behavior in organizations. Our study also offers managers a valuable framework for managing the employment relationship. This paper addresses the following research questions.

Research Questions

- How can empirical evidence help us to understand the UK's migrant domiciliary care workers lived experiences?
- How can such a data help us to link emotional intelligence, trust, dignity, psychological contract, and care quality in the UK's domiciliary care sector?

Literature Review

Theorizing the Psychological Contract

The psychological contract embodies an implicit and unwritten aspects of the employment pact (Haque & Oino, 2019; Haque et al., 2020) which underpins the employee's obligation to repay the employer's fulfilment (or lack of fulfilment) of their own part of the written contract (Larsman et al., 2024). The psychological contract not only brings into focus the responsibilities of the employer as well as the employee, but it also frames the lens of expectations between both parties, which underpins the social exchange relationship in an employment context (De Clercq et al., 2020). Researchers argue that the psychological contract can be breached and how the employee responds to this is determined by the leadership's emotional intelligence (Batool, 2013; Kobe et al., 2001) and employment relationship (Larsman et al., 2024; Parzefall and Coyle-Shapiro, 2011).

The traditional psychological contract typifies predictability, stability, job security, and developmental aspects of an employee's jobs as promised by the employing organization, which lured the employee to an organization (Raeder et al., 2012; Tipples and Verry, 2006; Saari and Koivunen, 2022). Unlike the legal and binding contract, which is formal, written, and enforceable, the psychological contract is informal and unwritten (Abela and Debono, 2019; Naidoo et al., 2019). As individuals' perceptions, interpretation, reasoning, and assessment of work situations are influenced by cultural values and mindset (Gracia et al., 2015; Zagenczyk et al., 2015), the psychological contract is individually held (Westwood et al., 2001). Researchers have also linked psychological contract fulfilment to lower levels of turnover intentions and higher levels of safety compliance behavior (Deas and Coetzee, 2020; Kraak et al., 2022). Therefore, there is the need to clarify the terms and conditions of the employment contract (Koomson, 2021), and for due consultation and clarity of communication prior to any change in the terms and conditions of an individual's employment contract.

Psychological Contract in UK's Domiciliary Care Sector

Representing nearly half of the social care jobs and workforce, the UK's domiciliary or home care workforce consists about 1.60 million staff (Skills for Care, 2026). Yet, this category of care workers suffers job insecurity, precarious employment practices, and with about half of them still on zero-hour contract. These situations constitute additional stress to the migrant domiciliary care worker (Ravalier et al., 2019), unlike the residential care workers (Hussein, 2018). These situations have increased the turnover rates within the sector and thus forced the government to add the care workers to the shortage occupation list in February 2022 (Home Office, 2023; Skills for Care, 2026).

Apart from delivering care services in clients' homes without team and peer support, researchers have found that the relational aspects of domiciliary care work also differ significantly from institutional forms of care work (Denton et al., 2002). Yet, in general, the care worker tends to be highly undervalued, under-appreciated and under-paid compared to other workers (Razavi and Staab, 2010; Williams, 2012; Daly, 2001). Consequently, the domiciliary care workers have often come from less well-off kinship or socially disadvantaged, poorer communities (Bolton and

Townson, 2018).

Furthermore, for employees to engage and commit their cognitive and emotional intelligence in their work, researchers argue that employers must first make the work psychologically meaningful, satisfying, rewarding, ennobling, and safe (Chaudhary and Panda, 2018). Handy et al., (2020) also found that exchanging [and fulfilling] promises and setting [and meeting] expectations as early as the recruitment stage, and throughout the stages of the employment lifecycle can help employees appreciate the reciprocity in their employment contract.

Similarly, Rousseau et al. (2018) proposed an all-embracing model of the psychological contract to include: Causes (organizational culture, HRM policies and practices, experience, expectations, and alternatives); Content (fairness, trust, and the delivery of the "deal"); and Consequences (job satisfaction, organizational commitment, sense of security, employment relations, motivation, organizational citizenship, absence, and intention to quit). Rousseau and colleagues further linked this to a more imaginative use of social exchange theory (p. 662). This highlights the role of HR in ensuring that all promises made on reward and benefits are reasonable (Carter et al., 2018), and fulfilled (Raeder et al., 2012). Yet, the stakeholders – the care recipients, the care workers, the union, recruitment agencies, the deploying organizations, the care managers, and the care quality commission – all have a critical role in shaping the care relationship, the working environment, the workers motivation, the psychological contract, and consequently, the quality of care (Folbre, 2006).

Research Methodology

Unlike most research on psychological contracts that have adopted a case study approach focusing on a specific organization, our participants were migrant domiciliary care workers from diverse care agencies within London. As we aim to deeply examine a range of complex psychological issues in their employment relationships, a qualitative approach is suitable (Coyne, 2008). Furthermore, due to the subjective nature of our findings (DiCicco-Bloom & Crabtree, 2006), a qualitative approach also provides us with the flexibility needed to unpack our participants lived experiences regarding contract violation (Guest et al., 2013).

The research adopted a purposive sampling approach to select our initial five respondents, who then, adopted a snowballing sampling to help us reach out to 39 others. Therefore, our sample size is forty-four participants. It was required of each participant that they have written and conversational competence in English, there was therefore no need for engaging interpreters. The primary data was obtained using a single open-ended interview question that encapsulated the research questions with participants telling their stories unhindered. Where necessary, follow-up questions were also introduced to generate richer insight. Consent was sought for the audio recording of the interviews, while participants were made aware that pseudo-names will be used for anonymity. The interviews were held physically in locations within London which were mutually agreed upon between the researchers and individual participants. They took an average of one hour per research participant.

Coding

To generate a rich set of qualitative data and to facilitate an extensive coding effort, a verbatim transcription was adopted, where we shifted back and forth between participants' responses and the authors' interpretation of their meanings. In our coding, the interpretative phenomenological analysis approach (IPA) was adopted, using a "bottom-up" approach, meaning that the researchers generate codes from the data, rather than using an already existing theory to identify codes that can be applied to collected data (Smith et al., 2009). First, was the hermeneutic stance which was based on inquiry and meaning making.

We read the interview transcripts a few times to familiarize ourselves with the texts, to identify the emerging themes, and to establish their recurring patterns. Consequently, based on their patterns, similarities, and differences, some of the themes were eventually grouped under much broader themes, which resulted in adjustments to the theme structure (Smith et al., 2009). It is worth pointing out that at this point the psychological contract types were not a subject of analysis, bearing in mind that the participants were not asked to narrate about their psychological contract types, although this was implied in their narratives.

Table I presents the recurring words, subthemes, and final themes that emerged from the interviews following a coding and theme-generation exercise.

Table 1: Coding and Theme Generation

Recurring words	**Sub-themes**	**Final Theme**
Language, Writing, Reading, Non-verbal, Body language, English, Gestures, write it down, Documentation, Speaking, Body map, Incident book, handover, Greet, Feedback	Interactions at work Document management Communication hitches Communication impediments	Challenges with communication
Culture, Values, Beliefs, Ethos, Customs, Ethics, Traditions, Religion, Different, Conflicting, Incompatible Race, Racist, Racial, Stereotype, Ethnic, Skin colour, Groups, Grouping, Discrimination, Different treatment, Indifference, Profiling, Abusive, Insulting, Bias, Black, White, Asian	Xenophobia Chauvinism Othering Identification Gender bias Racism Whiteness	Prejudice
Poor pay, Low pay, Travelling, no travelling allowance, Limited time, Hurried time, Transport, Covering, No leave, hours of work, No compensation, Zero hours, Zero-hour contract, Work life balance, Holiday, Rest, Recuperation, Exhaustion, Care-plan, Duty rota, Time sheet, Clock in, Clock-out, Double-ups, Lone working	Working terms and conditions Leave issues Zero-hour contracts Work life balance Fragmented time Service provision-related–time – Carer-related time	Time Constraints

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Fear over safety, safeguarding, DBS Check, workplace violence, fear of assault, criminal record, Police caution Biting, Spitting, Punching, Verbal abuse, Pushing, Bending, Back pain, Body aches, Hoisting, Manual handling	Carer safety Client safety Dangerous workplaces Lonely workspaces Occupational Health and Safety concerns	Safety Concerns

Issues identified across the themes	
Issue	**Description**
Workplace Challenges	Employer indifference, basic job-related training, NVQ qualifications, performance appraisal, staff development, career, progression, de-skilling, no time, poor work life balance, unpaid work, inadequate, lack of progression opportunities, accreditation challenges, little or no organizational support, HR policies, service user/client, care agency, service user/client's family, local authority, manager(s), supervisor(s), men suited for manual dexterity required, women for more 'feminine roles, highly gendered.
Personal Challenges	Immigration issues, culture shock, stressful work, demeaning, challenging, dangerous, unsafe practices, perseverance, low status, job insecurity, degrading, domestic issues in home country, misunderstood, perceptions about the role.

Source: authors' own illustration based on field data

Data Analysis

Due to the popularity of the IPA, especially in health psychology research (VanScoy and Evenstad, 2015), we adopted the IPA in analyzing our interview transcripts. Mhatre and Mehta (2023) also argue that the IPA has the potential to understand and uncover various phenomena within the HRM field. Understanding and uncovering participants' lived experiences are key in our research, as they are a minority group whose experiences could differ significantly from the majority, and as such can inform management decision-making. The double hermeneutic theoretical underpinning of IPA requires that we, first, make sense of the participants' narratives, then followed by a second-order analysis which was done by making sense of the participants' meaning-making process (Smith *et al.,* 2009). One challenge to the adoption of IPA for this research is the lack of software designed specifically for IPA analysis.

To address this research credibility, participants' narratives are presented using vignettes as participant emotions and silent moments also consisted of the data collected.

Data was further analyzed and interpreted in two stages: firstly, through an inductive approach where the key themes were drawn from the narratives in line with the first research question. This approach has helped us to make sense of our participant's behaviors, their complex experiences, perceptions, values, attitudes, and observations about their work and lives.

Secondly, we applied double hermeneutics, a deductive approach, where we subjected these experiences to psychological contract literature to examine the resulting psychological contract as

reflected in the parts of their answers that relate to our second research question. Being an IPA study, rather than being guided by a particular theory, we identified and interpreted our participants lived experiences through four psychological contract typologies – the transactional (Haque et al., 2020, relational (Middlemiss, 2011; Naidoo *et al.,* 2019), transitional (Aggarwal and Bhargava, 2009), and balanced (Rousseau, 2004). Table 2 illustrates the deductive interpretation of the themes and findings through the psychological contract lens to answer our second research question.

Table 2: Deductive Analysis of the Themes in Relation to the Psychological Contract

Themes	Description	Inferred Psychological Contract
Challenges with communication	Misinformation, Misunderstandings, Complications, Difficulties.	Transactional, Transitional
Prejudice	Feel demeaned, deflated, maltreated, labelled, misunderstood, unappreciated	Transactional, Transitional
Time Constraints	Inadequate, hurried, rushed, fragmented, a balancing act, inadequately compensated.	Transactional, Transitional
Safety concerns	Personal safety, client safety, injuries, risky, unsafe equipment, precarious workspaces, poor HR policies,	Transactional, Transitional

Source: field data

Findings and Discussions

Applying an iterative data interpretation approach, we utilized the four main themes with connected sub-themes. These main themes have not only provided us with deep insights into the domiciliary care workers lived experiences, but they are key in addressing our first research question. We also adopted an emic analysis to help us present our findings.

Communication Challenges

The excerpts below show some difficulties experienced by participants around communication. These include language - verbal (speaking) and non-verbal (signs, gestures, and facial expressions), writing, accents, comprehension, and parlance. Specifically, participants highlighted the importance of effective communication in performing their domiciliary and other forms of care work, as language is a key issue when communicating with clients, clients' families, other social care sector partners, and with their co-workers. Hence, miscommunication could lead to frustration, aggression, and poor interpersonal relations:

Migrant domiciliary care workers reported facing difficulties around communication in the course of their work. Being non-native English speakers, having different cultural orientations from both their clients and colleagues inadvertently affected effective communication.

These challenges include - oral (language, pronunciation), non-verbal (eye contact, touch, space, voice, body movements, and posture), and written (comprehension) as portrayed in the excerpts below.

"Though originally from Romania, I lived in Austria before coming to the UK, I speak German, so tend to first think in German before responding in English. If I do not know the English equivalent, I just utter it in German or Eastern Romanise and this annoys my clients…both my colleagues and clients automatically expect me to speak good English…and sometimes they are annoyed by my inability to speak fluently" (Male, Romanian participant).

"…the language barrier is a major factor. Even though I can speak English very well- I have a foreign accent and sometimes when I go to these elderly people's homes they struggle with my accent. Sometimes they ask me if I am communicating in English. Sometimes you must repeat yourself again and again so that they will understand you. During double-ups, colleagues sometimes mimic my pronunciation and accent. This makes me feel undervalued" (Male, Bangladeshi participant I).

"There is a problem when carers speak their native language and exhibit parts of their culture in the client's home. The first time I went to client X, his mother remarked, thank God the agency has finally brought someone who communicates in English, unlike the Eastern Europeans they have been sending. She explained that the barrier in communication used to irritate and frustrate both her (mother) and her son (client)" (Female, Kenyan participant I).

"A client's mother remarked that she was pleased that the agency had finally sent someone who communicates in English, unlike the previous Bengali and Eastern European language speakers. She expressed her displeasure about carers conversing in their mother tongue at work places. Speaking one's native language during double-ups among colleagues excludes the client during person-centered caregiving" (Female, Kenyan participant I).

Valitherm (2014) also argued that communication problems can create major issues at work, especially regarding interpersonal relationships. In the context of the migrant domiciliary care workers, such problems have also been found to affect their job satisfaction (House of Commons, 2023). It was established that similar to (Evans and Suklun, 2017) there can be communication barriers even between people speaking a similar language due to accents, speaking a different language compounded the problem (Valitherm, 2014).

Prejudice Othering

This theme links participants' recollections of critical incidents at work, including racial discrimination, gender bias, confrontational behaviors, and ethnic profiling with perceptions of others. In some accounts, participants also justified how their memories of poor treatment at work led them to recalcitrant behaviors at work:

"Being male and black, I face discrimination for two reasons, especially from female clients. It is not only from the white clients but even from Black descendants too. Maybe arising out of gender or cultural differences they are apprehensive about my suitability to perform their

care tasks. Some will ask questions like – Does the agency not have female carers? ...Others refuse me entry into their premises in which case I lose job hours and this hurts because I am on a zero-hour contract" (Male, Nigerian participant I).

"The Filipinos and Eastern Europeans think that they are better carers than others, due to their lighter skin colour. Unfortunately, some clients also give these people preferential treatment. This makes me angry" (Male, Nigerian participant II).

"I was once called a fat black cow with a black face. Other clients comment about my short kinky hair. I have been ordered to get out of some client houses! I think this has to do with my being a foreigner, a migrant, and a low-skilled worker. This hurts" (Female, Nigerian participant III).

Earlier studies have found that cultural values [as well as lived experiences] can influence individuals' prejudice, perception, interpretation, and reactions to workplace incidents (e.g., Gracia *et al.,* 2015; Westwood *et al.,* 2001; Zagenczyk *et al.,* 2015), which can impact the level of stress experienced by an individual. Yet workplace bullying, role ambiguity, and role conflict have also been classified as job stressors (Hauge, Skogstad & Einarsen, 2010).

Time Constraints

The next set of quotes show that despite spending longer hours commuting in between locations of several short jobs, participants are only paid from the time they clock in, till they clock out of the clients' homes. Yet participants highlighted that the time allocated to performing critical tasks such as feeding clients (some of whom with physical disabilities) is never enough.

Poor services provision-related time

"I suggest that CQC should inspect home care premises in a similar manner to which they inspect institutional settings. There may also need to be a review of the time and budget allocation for some clients. I feel sad when I notice that a good number of clients are allocated, for example, a 15-20-minute mealtime visit. I have worked in such shifts, where in 15 minutes you may not effectively feed a client, especially if they have difficulties in swallowing. Even though I sympathize, I have a call straight after this, so I am unable to extend my stay. What I do is that I feed the client until the lapse of time, any leftover food is put in the fridge or if the client can feed themselves, I leave them to complete after I am gone. Sometimes the client may ask me to bin the food and clean the plate before I take my leave. I feel very sorry" (Female, Romanian participant II).

''I feel that the contact time allocated to some clients is impractical. Balancing personal care and feeding tasks A 15-20 minute visit to feed a client with challenges in swallowing is not sufficient. Despite my empathy when I am unable to wait until they have finished eating so that I can clean the dishes. That I have another call immediately after this one necessitates that I leave in time. Some clients ask me to bin any uneaten food before I leave so that I can

clean the dishes before exiting. This really saddens me" (Female, Romanian participant II).

"It's like you will be moving up and down running helter-skelter like a headless chicken the whole day between client homes back and forth because there is no time allowance for travelling time, as travel time is neither factored nor paid for in most domiciliary care work. You may find yourself being busy for about 10 hours, but the take-home pay is only for the contact hours that you clocked in and out at the client's home and not the time spent commuting. This is very demoralizing. Even for those who drive, they must deal with the traffic, the parking charges, and parking spaces" (Male, Philippine participant I).

"The hectic schedule that care work involves compounded by travel time not being paid for is a challenge. For example, for a 10-hour up-and-down job run, the pay is for contact time only. Even for those who self-drive to work, they have to navigate through traffic and look for parking slots in between their job shifts" (Philippine participant I).

From the quotes above, the hours of care available to the clients are beyond the care worker's control as these are allocated through a needs assessment by the local authority, and even where there is privately paid care, the recipient can decide on the actual hours they will purchase from their caregiver, based on their estimations. Where there is a discrepancy between the actual hours needed and those paid for, then there are issues, as some necessary tasks may not be finished.

As highlighted in the above quotes, this could result in feelings of oppression on the part of the carer, while the care recipients may also feel that their care needs have not been met. Yet, travel allowance needs to be provided, whether in the form of paid transport allowance, official transportation to distant locations, or where the allocations of care visits do not allow for time to shuttle between one visit and the next even within the same locality, as the current situation affects the working experiences of the migrant domiciliary care workers.

Subjugation to the duty rota. Supremacy of the duty rota

For both service users and staff, how the scheduling of service delivery interfaces with their daily lives and personal commitments is of prime importance. The centrality of the rota and its use in managing and making sense of the fragmented time within domiciliary care is shown in the selected extracts:

"I also got to learn the hard way after a considerable span without getting allocated any shifts… for me to get more hours I needed to maintain a physical appearance at the office whether, through texting, calling or if I was working near there taking my time sheet in so that the staff allocating shifts could remember to give me shifts and more-so whenever there were new care packages. Out of sight out of mind, they say" (Male, Romanian participant III).

"As an agency worker, I experienced a time when I was not allocated any shifts. To be considered for available shifts and particularly new care packages, my physical presence at

the agency's offices and canvassing were required" (Male, Romanian participant III).

"At times if you or your co-worker is late for a double-up assignment, some unscrupulous agency managers will ask you to get along with it as you await your partner or even to complete the assignment on your own. This is very dangerous because for example if the client needs to be hoisted, things can easily go wrong" (Female, Nigerian Participant IV).

"Agency managers are under pressure to ensure that there is no loss of contracted hours and therefore compelling the available onsite worker to commence care roles individually even when the double-up partner is late or unavailable, not factoring in the risks if anything went wrong for example during hoisting. If safeguarding complaints are instituted it would be the carer to face the consequences" (Female, Nigerian Participant IV).

The above set of quotes shows how service scheduling, allocation of shifts, and lack of managerial emotional intelligence influence the migrant domiciliary care workers lived experience, and thus their psychological contracts.

Prevalence of Zero-hour contracts

The next set of quotes shows that participants have varied perceptions of zero-hour contracts. While the employer-initiated zero-hour contracts were criticized, some of our participants believed that the opportunity to choose to work zero-hour is a form of flexible work, as these are beneficial to certain categories of workers, e.g., full-time students and those with caring responsibilities:

"I was not offered a contract. My job is purely zero contract hours. So, if I don't work - I don't get paid. My holidays were tricky also because you don't get paid for the holiday… 'This job is just a slave job' because when you come to think of it- how much is my salary, it is not even up to the London Living Wage. It is hand-to-mouth. So, by the time you do your expenses- pay your transport - you have little, or nothing left. So, it's a challenge on its own" (Male, Nigerian participant I).

''From the onset, I was not given an option about what sort of contract I preferred. I was placed on a zero hour contract. If not working, there is no pay. I am not paid for holidays. Any absence from duty is perhaps considered unpaid time off. I feel entrapped, as my salary is below the London minimum wage often. It is a life of from hand to mouth and therefore quite challenging" (Male, Nigerian participant I).

"I don't agree with a zero-hour contract. If you want to give me a 6-month or another fixed-term contract then do exactly that, but do not give me a zero-hour contract" (Female, Belize participant I).

"I do not advocate for zero-hour contracts. If you want to give me a time limited contract for example six months, then be forthright and do that! For God's sake do not offer me a zero-hour contract" (Female, Belize participant I).

"Many people have suffered over the years [due to zero-hour contract]*; you work, no holidays, no benefits, and if you are sick, you wait until you get better to resume work to start being paid for the hours you will now work"* (Male, Lithuanian participant I).

"Over the years zero-hour contracts have negatively affected many carers, they have no holiday pay, no benefits and even there is no sick pay. If one is sick they have to wait until they are well to commence paid employment"(Male, Lithuanian participant I).

"In these 6 years of my employment, I have never had any paid leave as I am working for my agency on a zero-hour contract. There is no clause about leave in my contract" (Female, Sierra Leonen participant I).

"During my 6 years of employment in agency domiciliary care work, I have never been paid for leave. My zero-hour contract has no provision for leave, so I cannot claim any entitlement" (Female, Sierra Leonen participant I).

"I work for an agency, and I work on a 6-day week zero-hours contract, so I do not qualify for paid leave, nor do I have time to rest or take a holiday as I desperately need every coin I make as a single mother with three kids" (Female, Latvian participant I).

"As an agency worker and working for 6 days a week on a zero-hour contract, I am told that I do not qualify for paid leave. Since I need to make my ends meet, I have to work all the hours given that I am a single mother with three kids" (Female, Latvian participant I).

"Now I have 2 weeks of paid leave in my current contract. It's because of the law, that's made, they must do this. Otherwise, I would still not be paid" (Male, Antiguan participant I).

"In compliance with the law, I am now given 2 weeks paid leave in my current contract. I am sure if it wasn't for fear of the law my employer would not yield"(Male, Antiguan participant I).

From the above set of quotes, it can be inferred that though the migrant workers are willing to accept low pay and difficult working conditions due to their circumstances (Cunningham and James, 2014), with zero-hour contracts, this neglected group of workers lack annual leave entitlement and other accruing employment benefits in an already marginalized social care sector (Hussein *et al.,* 2011). Although as can be seen above, there are few exceptions where the domiciliary carers were offered paid leave as per the statutory requirements, in a good number of cases, the employer devised a practice to ensure that the employees were offered intermittent work that fell out of the leave entitlement threshold.

Poor Work-life balance Discontent over Work-life balance

Most of our participants mentioned their inability to balance their work and personal lives, including a lack of time for rest and recuperation. This can lead to burnout, anger, high stress levels, dizziness, and other health issues, and thus recalcitrant behaviors both at work and other social settings:

> *"Throughout my 2 years of working within domiciliary care, I have not taken any holidays, it has been working and working to pay my tuition fees, to meet my accommodation and living expenses* [changes tone to almost a whisper]. *It is not easy to combine full-time studies and domiciliary care work and family life but then I need the money"* (Female, Tanzanian participant I).

> *"For the 2 years I have worked, I have never taken any holidays. I am a student and have to work to pay my fees, cover my living expenses and travel costs. Combining full-time studies and agency domiciliary care work and family life is a tall order. However, I need the money"* (Female, Tanzanian participant I).

> *"It is very hard to balance work and life because the hours that are offered are few and the pay is poor, Domiciliary care work is different from residential care, so I need to capitalize on the available hours to make ends meet"* (Female, Polish participant I).

> *"In light of the low pay, erratic and few contact hours offered, there is a clear distinction between domiciliary and residential care. I crisscross both to make my ends meet. When I am not working in one, I take on shifts in the other, essentially leading to overworking"* (Female, Polish participant I).

> *"On work-life balance* [giggles]. *I try, but with this work, it is very challenging you know. Especially with the shift patterns because I also work on alternate weekends. I rarely find my children awake by the time I get home in the evening"* (Female, Nigerian participant IV).

The participant below shows the effects of a lack of work-life balance and provides advice from their experience:

> *"Before you go into care, think carefully. Plan* [grimaces] *because if you don't plan, you could end up with no family, you just live all by yourself. It's partly your fault because you have been working too hard* [giggles] *to pay your bills, to meet your other needs but lose your family bond... For instance, all your kids will grow up and you won't be there to raise them because you have been working too hard. That's why I would say, before entering this kind of work, home care work, make sure you have a plan… otherwise your whole life sometimes could go past you, and you don't even know…"* (Male Antiguan participant I).

Although Guerrero and Herrbach (2008) argue that where the perceived contract is not fulfilled, it can harm both the individual and the organization, hence both parties must deliver what was promised. The above quotes also show that sometimes, frustration could arise from unmet expectations.

Safety and wellbeing Concerns

Safety concerns were also identified, which relate to the safety of the clients as well as the careers. For instance, participants reveal their concerns over unsafe working conditions, and the possibility of falling short of the legal requirements for the safeguarding of vulnerable persons and the repercussions to the carers' career and possible conviction if found guilty:

> *"When I was employed by my agency, I was given 3 days of training. My first assignment was to provide domestic housekeeping services for a female client. Health and safety matters had been introduced in the training, but it was majorly on the use of PPE and the body alarm if I am alone working. As I was hoovering the carpet, the client took a knife and wanted to stab me. I had not been briefed that she had behavioral problems, and I could not access her plan as I had only been verbally briefed by the agency on the assignment. I dodged the knife by quickly running away. I was shocked- I mean, I couldn't just – you know did not feel safe in that house. I left and informed my agency. But what did they say? They just said, ok. Do not go there again. And I later heard that she was taken to an institutional setting for mental health problems. I felt that the agency did not give me a proper brief on the job, and I could have been killed in the cause of duty"* (Female, Pakistani participant I).

> *"Sometimes when your co-worker is late during a double-up, some unscrupulous agency managers will ask you to commence the job as you await your colleague or promise to send cover, but they do not. In the end, you do the job solo to completion. This can be risky especially if there is moving and hoisting. If any harm happens then you are legally liable to CQC. Doing the work of two people alone also requires more time and I get late for the next shift"* (Female, Nigerian participant V).

Inadequate training, misinformation about the care plan, and compressed care visit time also lead to unsafe workplaces as exemplified through the narratives by the above respondents.

Overall, in conclusion, our findings established that negative workplace experiences and the domiciliary migrant workers' personal circumstances affect the quality of the services provided. It further shapes the type of psychological contract that the worker forms. Managerial and institutional support is a mitigating force in determining the quality of care. Figure 1 below encapsulates our findings.

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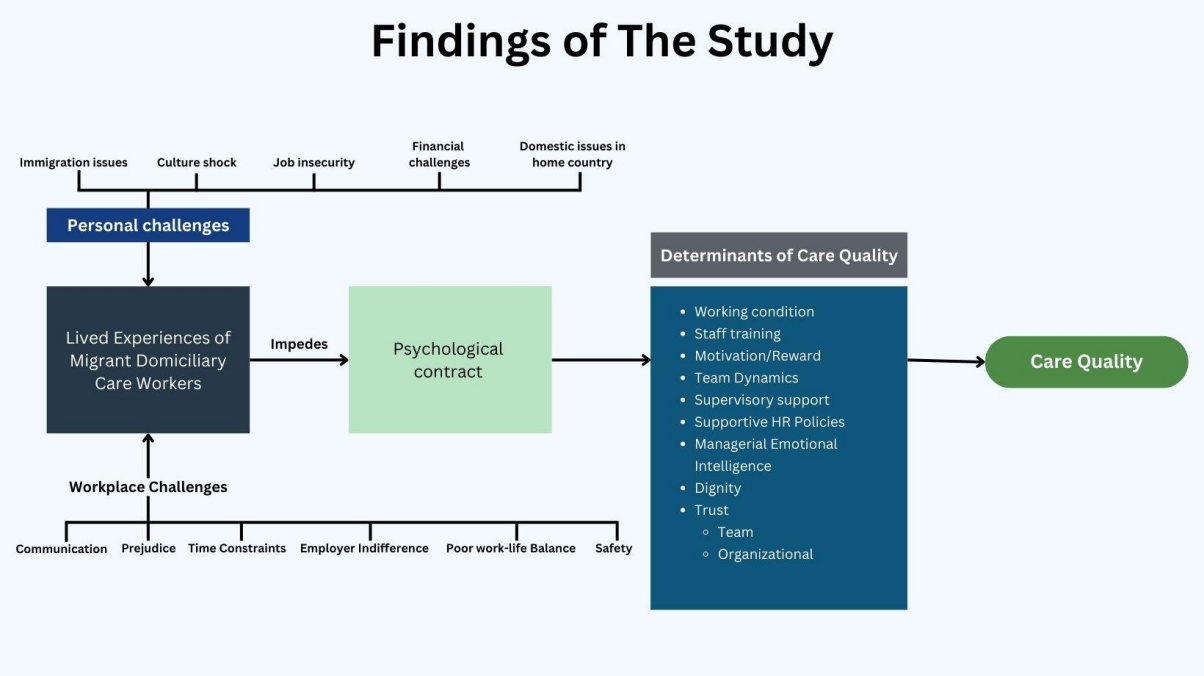

Figure1: *Findings of the study*
Source: Field data; developed by authors.

In the findings above, we have generated and presented empirical data to help us understand the UK's migrant domiciliary care workers lived experiences in addressing our first research question. It is the results of this that have been aptly presented in figure 1 and table 2, respectively. We argue through Figure 1 that there is a correlation between workplace, personal circumstances and organizational support and migrant domiciliary care workers' psychological contract. After a deviation from the expected behavior at work, employees perceive a breach of contract. Where there are perceptions of psychological contract breach, there is a breakdown in relations, whether the aggrieved employee leaves or exits, and it decreases productivity.

From available data the study established that many of the research participants inferred having experienced hardships at their place of work that made it difficult for the development of organizational citizenship behavior. Bearing in mind the contingent nature of migrant care work and the multiple interpretations of 'the employer'' it is imperative that all the actors in this sector play their part in ensuring the provision of quality care and sound employment practices. We pose a question "are vulnerable people taking care of vulnerable others?" if that be so then what can be done?

In addressing the second research question, this paper sought to link psychological contract breach in the UK's domiciliary care sector to a lack of managerial emotional intelligence, lack of trust, lack of dignity, and poor care quality in the sector. While Chambel et al. (2016) noted an increasing use of temporary agency workers (TAW), we have identified some of the key challenges facing this group of workers in the UK's domiciliary care sector. Some of these challenges include erroneously viewing participants as a homogeneous group, requiring a one-size-fits-all approach to managing and staffing, despite their heterogeneity. Communication challenges, which

participants highlighted how this affects their well-being, sense of self-worth, and the quality of care delivered. This is also consistent with the findings of Parzefall and Hakanen (2010).

We therefore highlight the need for effective staff training and development, alongside an effective employee support system. Although, the domiciliary care is classified as a low-skilled job, the limited training offered by the employment agencies is mostly too basic, inadequate, or too narrow, or lacks the sophistication to cover a wide range of job-related challenges faced by the migrant domiciliary care worker. Chambel et al. (2016) also highlighted the need for HR to fulfil its obligations on staff training, as a part of fulfillment of the employers' own psychological contract obligation.

Furthermore, episodic prejudice is another challenge experienced by the migrant domiciliary care workers. Despite such a negative experience, due to limited alternatives, participants must devise some coping mechanisms which may include recalcitrant behaviors such as verbal retaliation, working to specification, lack of discretionary effort just to mention a few which are indicative of a transactional-transitional contract. In addition, even where the care worker might be sympathetic with a client's situation and may want to offer additional care, which indicates a desire for a relational contract, the apportioned care time does not enable such as altruistic behavior. Researchers also argue that lack of fulfilment of an employer's obligation of the psychological contract affects employees' capacity to form a relational or balanced psychological contract (Tipples and Verry, 2006; Saari and Koivunen, 2022). For instance, an employee who has safety concerns whether they own or the client's will not perform their duties as expected, due to the risk of accidents or safety breaches that could affect care quality.

Moreover, any perception of animosity or abuse would make it difficult for a migrant worker to form a balanced or relational psychological contract. In fact, the description of 'migrant in the market model' (e.g., Hooren, 2012; Da Roit and Weicht, 2013) was upheld in our findings, e.g., as safety concerns, risks, and vulnerabilities of the migrant care workers were all highlighted. The transactional nature of the relationship between agency staff and their employer was evidenced by our participants' descriptions of how, due to time constraints, they drop in their time sheets at the office mailbox at the end of their work week, as failure to do so on time could cost them their weekly wage. In addition, the rampant use of texting to notify the agency about their availability for work epitomizes a transactional contract. Yet, the prevalence of zero hour contracts which is due to the economic hardship globally impacts the wellbeing of the migrant domiciliary care workers, who, like every other worker, need job security and a stable wage system, otherwise they are susceptible to developing a transactional - transitional contract, as they scout around for any available job offers (Lessner and Akdere, 2008; Cicellin et al., 2022).

Another notable characteristic of the migrant domiciliary care workers is that not much is promised to the worker at the point of entry into the employment relationship. Yet psychological contract fulfilment occurs when employees perceive that their employer has met promised obligations whilst a breach denotes a discrepancy between the assured and the met resulting in turnover intentions, turnover, and other undesirable employee attitudes (De Clercq et al., 2020).

Researchers also found that these negative aspects of the migrant domiciliary workers lived experiences result in low job satisfaction and a difficulty in forming a relational–balanced psychological contract (Turnley and Feldman, 2000). Yet the unequal power relations between the migrant domiciliary care worker, their employer, their client/client's family, and other social care partners hinder the development of a relational psychological contract. These aspects also hinder the care workers' willingness to work towards the achievement of the organization's goals, as organizational citizenship behaviors (OCBs) are affected (Amoah et al., 2021).

Moreover, in compliance with the home office immigration requirements most of our participants are on student visas, and as such, indicated that they are holding a transitional contract, which creates high levels of mistrust and uncertainty (e.g., Jepson and Rodwell, 2012), and thus could affect their capacity to fulfil their psychological contract obligations. For instance, this is evidenced in the interview quotes:

> *"The reason why I do not proudly wear my uniform and have to cover it up is that I do not see myself as doing this job all my life, I do it on and off". (Female, Ivoirian participant I).*
> *"I do this job as I wait to get my indefinite Leave to Remain in the UK. Also, I hope to commence my social work studies when all my children have reached the school age"* (Female, Cameroonian participant I).

Researchers (e.g., Cicellin et al., 2022) also argue that while the above situations can affect the employees' willingness to show affective commitment at work, the employers would find it difficult to build trust, to make meaningful investment into the employees' professional development, and thus the absence of a balanced psychological contract by both parties. Finally, a key feature of the psychological contract and the expectations that it encompasses is the way in which the expectations are influenced by management rhetoric (Grant, 1999, p.327).

Conclusion and Recommendations

Our study has revealed several key findings to suggest that the migrant domiciliary care workers experience racism, and have safety and economic concerns, all of which are inherently complex and concerning, and therefore require both further study and immediate action. These situations also limit migrant workers' capacity to build affective commitment or to fulfil their own part of the psychological contract obligations, as individuals can only build affective commitment if their physiological needs are met. This highlights the need to review the law around zero-hour contracts, while employers should also support the migrant workers, especially, during their adjustment phase, so they can develop a relational and balanced psychological contract.

Limitations of this study and future research directions

This paper does not seek to measure the psychological contract of the migrant domiciliary care workers by using the psychological inventory as developed by Rousseau (2001) and advanced by Rousseau et al. (2018). While this would have enhanced the current paper, given our participants'

circumstances, it would have been daunting to ask such direct questions to determine the type of psychological contract they held, or if there were instances where they breached their psychological contract. However, this provides an avenue for future research, as future researchers can focus on how HR practices such as recruitment, training, deployment, affect psychological contracts, by drawing from a range of sectors/organization in the UK.

To enhance a deeper understanding of the migrant domiciliary care workers in the UK we suggest that comparative studies be conducted between migrant and non-migrant domiciliary care workers. We recommend that future longitudinal research tracking psychological contract evolution over time be undertaken. This study focused on the subjective views of employees. There is a need for studies examining employer/manager perspectives to complement worker voices since the continued presence of migrants in the domiciliary care is a reality within the United Kingdom.

Contributions to knowledge

Earlier studies examining psychological contract breaches in the UK's health and social care sector had focused mainly on the nurses, therapists, and the residential care sector with only a brief mention of the domiciliary care sector. As one of the pioneering studies to address this research gap, the current paper specifically focuses on the migrant domiciliary care workers. Drawing from diverse nationalities and cultural settings, our paper builds on Ow Yong and Manthorpe (2016) study that focuses only on the lived experiences of 12 Indian migrant care workers in UK's residential homes. The diversities in our participants lived experiences will enrich the extant literature in a complementary but distinctive fashion.

Furthermore, the timing of our research is perfect – when the UK is facing a deep-rooted debate on immigration and the migrant workers contribution to the UK's post Brexit economy, especially, in the health and social care sector. By highlighting some of the taken-for-granted assumptions about migrant workers, their lived experiences, their significant contributions to the nation's socio-economic development, and how the country can maximize the benefits of employing this special group of workers, we offer contemporary knowledge that contributes to this debate.

Finally, in terms of our contribution to methodology, our blend of interpretative phenomenological analysis and hermeneutic phenomenology is distinct and will serve as a learning opportunity for less experienced and/or early career researchers.

Practical Implications

For enhanced care quality, we have highlighted the need for improved working conditions. We also stressed the need to review (and possibly, to abolish) the zero-hour contracts which have both financial and emotional/psychological implications for the migrant domiciliary care workers. Furthermore, care providers must improve their investment in staff training and development, including training on cultural awareness, so staff can benefit from tailored support to meet individual needs. In addition, the training should go beyond a superficial compliance with the Care Quality Commission (CQC) expectations but should encourage employees to show affective

commitment at work, and in turn will impact the quality of care provided. Trained staff should also be provided with the opportunity to utilize the skills learnt as a basis for progression/promotion.

Furthermore, this research has provided rich descriptions of the lived experiences of the migrant domiciliary care workers within London, whose stories serve as wakeup call for stakeholders in the UK's care provision, as such information highlights the need to review some of the existing policies. We have also highlighted the crucial role of HR in improving workplace resources and in effective recruitment, training, and deployment within the sector. Stakeholders that may find these findings useful include (but are never limited to) the Social Care Services Departments, Local Authorities across Britain, Home Care Associations, Trade Unions, Human Resource departments, and Organizational Development Specialists.

Furthermore, although the above challenges limit our participants' capacity to adjust, researchers have found cultural intelligence, technical Knowledge, Skills, Abilities and Other characteristics (KSAO), learning orientation, language skills, environmental factors (family, organizational, and interpersonal support), and training factors (content, process, and elements) key to migrant workers' capacity to adjust (Feitosa et al., 2014). Finally, access to sympathetic social support can have a significant positive impact on children and spouses' well-being, and thus the migrant workers' perception of the relocation decision, and thus, their psychological contract (Mutter, 2017).

Declaration

This manuscript is derived in part from a doctoral thesis of one of the authors.

Data Availability Statement

The authors confirm that the data supporting the findings of this study are available within the article [and/or] its supplementary materials.

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AI-Driven Change Management in the VUCA Era

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Abstract

In a world of increasing volatility, uncertainty, complexity, and ambiguity (VUCA), traditional change management models, such as Lewin's "unfreeze, change, refreeze" model and Kotter's eight-step process, hardly meet the needs of modern organizations. Despite years of theoretical development, approximately 70% of change initiatives still fail (Kotter, 1995; Bankins, & Formosa, 2023). This is largely due to an underestimation of human dynamics, a lack of immediate feedback, and an inability to respond effectively to constantly evolving situations.

This article presents the AI-driven Adaptive Simulation Framework (AI-ASF), a novel model that combines artificial intelligence, predictive analytics, and real-time simulation to improve the success and sustainability of transformational change. Unlike static and linear models, the AI-driven Adaptive Simulation Framework (AI-ASF) is dynamic and context-aware. This model uses machine learning, natural language processing (NLP), and multi-agent models to assess employee motivation, predict resistance, and simulate tailored interventions before implementation.

By proactively managing risks, strengthening stakeholder engagement, and ensuring the alignment of interventions with organizational objectives, AI-ASF facilitates the link between the design and implementation of change processes. Drawing on a qualitative multiple-case study methodology, this research examines the use of AI-ASF in various sectors, including healthcare, finance, and technology, providing valuable insights into its scalability and real-world applications. Early results demonstrate that AI-ASF can significantly reduce failure rates. It provides leaders with real-time, data-driven insights and fosters more sustainable, human-centered transformations.

As organizations accelerate their digital transformation efforts, AI-ASF not only makes a theoretical contribution to the study of change management but also offers a practical guide for leading resilient and adaptive change. It redefines change management as a continuous, intelligent, and ethical process that helps leaders manage complexity with insight, flexibility, and precision.

Keywords: *Change Management, Artificial Intelligence (AI), Adaptive Simulation, VUCA (Volatility, Uncertainty, Complexity, Ambiguity), Predictive Analytics, AI-ASF (AI-Powered Adaptive Simulation Framework), NLP (Natural Language Processing)*

JEL Classification: M10, M15, M54, O31, O32

Introduction

Managing organizational change remains a crucial challenge in the contemporary business world, and empirical studies suggest that up to 70% of change projects fail (Kotter, 1995). These failures are primarily attributed to neglecting human factors, emotional nuances, and the dynamic interaction of factors in today's VUCA (volatile, uncertain, complex, and ambiguous) environments (Haque et al., 2017; Haque, 2025). This focus on the human element is critical, as research by Haque and Yamoah (2021) demonstrates that ethical leadership plays a vital role in managing the occupational stress that often derails such initiatives. Traditional change management models, such as Lewin's "resolution-change-freeze" model and Kotter's eight-step process, are more conventional and not always suited to the iterative, interconnected, and rapid nature of modern change. Designed for slower, more hierarchical environments, these models struggle to grasp the social, emotional, and systemic challenges of contemporary organizations (Mbarek, 2024).

Artificial intelligence (AI) can offer paradigm-shifting capabilities to bridge these gaps through real-time analytics, predictive modelling, and adaptive interventions. To anticipate resistance, detect threats, and optimize change initiatives, AI-based solutions can process large volumes of data, such as employee sentiment, behavioral trends, and organizational dynamics. Leveraging the concept of AI integrated with real-time simulation, the AI-based Adaptive Simulation Framework (AI-ASF) redefines change management as a dynamic, data-driven process aligned with human needs and realities.

This study examines the advantages of the AI-based Adaptive Simulation Framework (AI-ASF) in enhancing change management by enabling the recreation of scenarios, prediction of risks, and real-time strategy adjustments. This study uses a qualitative case study and quantitative secondary data analysis to examine how AI-driven simulations can predict and mitigate risks, reduce failure rates through adaptive interventions, and dynamically support sustainable, stakeholder-aligned transformation processes within the sector.

The research will address three key questions:

1. How can AI-based simulation be used to predict and mitigate risks associated with change initiatives?
2. How can AI help reduce failure rates through adaptive interventions?
3. Is the AI-optimized framework capable of responding dynamically to diverse situations within the sector?

Problem Statement

Regardless of the decades of research and a variety of analysis frameworks, the process of organizational change still fails in disastrous statistics: every seventh transformation initiative still fails to meet its goals. The classical models, the three-step Lewin process and the eight-step Kotter process were created in a world that was slower and more predictable. These models suppose that change is done linearly and that people respond sequentially. Nevertheless, such an assumption is no longer true in the current competitive, unpredictable, and intensely human worlds. Resistance suddenly appears, emotions change during the night, and situational risks become which cannot be identified with the help of any checklist. The difficulty of foreseeing complications and taking corrective action on a timely basis means that leaders are subject to untimely crises frequently, thus leading to weakening commitments and loss of momentum.

Purpose Statement

This study proposes and proves the existence of the AI-Driven Adaptive Simulation Framework (AI-ASF), which is a dynamic framework that ultimately provides predictive and adaptive capabilities in real-time in change management. By continually assessing the feelings of the employees, spotting the first signs of resistance and running millions of simulations, this model allows leadership teams to know their issues and choose the most effective combination of established strategies, which are traditional, agile, or new, and fit their cultural and contextual environment. The outcome is a complex, trainable system that guarantees successful change management, signals the overall failure rate to history to a substantially lower level, creates a stronger stakeholder involvement, and makes change management not a process of theory, but one of measurement and management that is sustainable in its outcomes.

Literature Review

The Role of Change Management Frameworks

All major change management models guarantee a secure change, but most of them fail to work under the conditions of the real world. The traditional model, which is the classic resolution-change-freeze model developed by Lewin, provides a simple and soothing vision to the organization, but the model assumes that the organization will be able to wait long enough to allow everything to stabilize, an assumption that cannot be held with the speed and inexplicability of change (Lewin, 1951). Kotter's renowned eight-step process puts the leadership and urgency center on the change, but once it is started, change becomes a predetermined order; in case of possible resistance or external shocks, the model fails to provide a natural process of quickly turning around. In the same way, the ADKAR model created by Prosci is good at leading individuals through awareness, desire, knowledge, capability, and empowerment, and hardly ever tackles the larger systemic elements, like internal power dynamics, cultural habits, supply chain constraints, or sudden budget cuts, which can insidiously take down the best personal commitments (Mbarek, 2025; Hiatt, 2006).

Practically, these famous frameworks are most effective in the controlled situations for which they have been created, yet they make leaders blind to the new threats and fail to adapt to new environments easily (Mbarek, 2025). The Agile techniques have been extremely successful in the software and information technology domain, where small releases can be released after every two weeks, instant feedback and corrections of the teams can be made (Rigby et al., 2016). Successful in this regard, numerous industrial, manufacturing, and construction firms tried to imitate agility word-for-word. They had meetings in their factories daily, erected Kanban boards alongside assembly lines and identified long-term factory improvement as races. The outcome was poor usually. It is impossible to ship physical production every two weeks; heavy machinery, safety certifications, collective bargaining agreements, and multi-month delivery times set by suppliers cannot be used in two-week cycles (Ciric et al., 2017; Kumar et al., 2019).

The new rituals seemed to be not only too many and unproductive, but the middle managers silently continued to use the old approach, and the new speed and flexibility were never achieved (Ślusarczyk et al., 2020). After several years of mixed, or even disappointing, results, most factories and construction sites have abandoned the Agile methodology across the company, retaining only a few superficial practices (reviews, visual dashboards) and adopting what we called a hybrid methodology (Cooper & Sommer, 2016). Concisely, any current system, old or new, is rather efficient within the conditions in which it was developed, but none of them can really look into the future, perceive the emotional state of thousands of individuals, and automatically change its

strategies to changing situations (Ademola, 2024; Bankins, & Formosa, 2023). It is this gap that the AI-based adaptive simulation framework was geared towards counteracting.

Artificial Intelligence in Change Management

AI is transforming the concept of change management by offering real-time and data-driven analytics, as opposed to past models (Veluchamy, 2025). The machine learning algorithms can process the emotions, communication patterns, and engagement cues of the employees to predict the early signs of opposition or lack of engagement (Pathak et al., 2023). One instance is natural language processing (NLP) to detect negative emotions in team communication and intervene by hiring an executive coach or sending individualized messages (Severes et al., 2023). The predictive models forecast a high-risk condition, like cultural incompatibility or skill shortage, so the leader can take time to change their strategies (Valencia, 2025). The success of such AI-driven strategies is contingent on a foundation of strong leadership; for instance, the ability to foster innovation under pressure, as explored in the stress-innovation link by Haque, Yamoah, and Nweke (2025), is a key competency this framework would need to support. Recent developments suggest that the progress of AI may be enhancing the decision-making procedures, automating the administrative work, and attracting a deeper insight into human minds when change management is being considered (Masood, 2025). This transformative potential of AI is not limited to managing internal change but is fundamentally reshaping entire organizational models and strategic opportunities, particularly in the realm of entrepreneurship where AI is driving new forms of innovation and venture creation (Haque, Patel, & Gkasis, 2025).

Generative AI is also playing a bigger role in solving problems in real-time by offering solutions which are dynamic and evolve with the past, whereas deep analysis of employee sentiment AI is helping change managers (McKinsey, 2025). The adoption of AI in the workplace also indicates that, although a substantial amount of investment has been made by corporate entities, not many companies have fully matured yet, and which role of leadership cannot be omitted in facilitating the transition to AI (BCG, 2024). The absence of managed change, within the context of how AI should work alongside, rather than replace, human decision-making, makes the successful integration of AI almost unachievable.

Risk Management and AI

Risk management plays a very important role in the success of change initiatives. But the tools of traditional approaches are dynamic and in response (Changing Point, 2025). AI enhances risk management since machine learning is used to anticipate risks, e.g., employee resistance or operational disruption, by analyzing data (past and present) using machine learning. One of the biggest trends in 2025 is predictive analytics, which enables one to see possible areas of vulnerability even before they occur and, therefore, implement proactive measures to address challenges (Sees, 2024). AI-based risk management (ABM) is a risk management approach that combines risk detection, evaluation, and reduction within a feedback loop to allow organizations to focus on risks that have a high impact and to execute specific responses, including skills training programs or stakeholder interaction initiatives (McKinsey, 2025). Dashboards powered by AI offer real-time information, which can be adjusted dynamically to modify plans. Predicting vulnerabilities and creating accountability using data analytics is a basic aspect of efficient change management services (Prosci, 2025a). This predictive capability is enhanced by understanding the psychological state of the workforce, a topic central to the Handbook of Research on Occupational Stress (Haque, 2022, 2023), which provides the foundational knowledge on stressors that AI systems must be trained to detect and mitigate.

Real-Time Simulation and AI Integration

The relationship between artificial intelligence and real-time simulation. Using real-time simulation paired with artificial intelligence, organizations can simulate change scenarios and predict outcomes with great accuracy (Veluchamy et al, 2025). Multi-agent models are used to simulate individual behaviors, while systems dynamics models are used to explain trends in an organization including the lag in training on adoption.

Research Methodology

Data Collection and Analysis

A Triangular Approach with the help of AI. Data collection aimed to obtain a broad picture of the change process and concentrate on such aspects as managerial decision-making, stakeholder engagement processes, AI application patterns, and the inclusion of sustainable development principles. In order to have a holistic and multidimensional approach, the present study relied on a triangular data collection approach, employing three methods: semi-structured interviews, organizations and their documents, and AI-based tools (Yin, 2018). The main source of data was semi-structured interviews, which gave detailed and first-hand narratives of a large group of respondents with varying roles such as strategic leaders, project managers, and front-line employees. This was a focused sampling methodology which made the data represent the diversity of views.

Case Study: The Practical Use of AI-ASF Principles

The qualitative case studies have given sufficient evidence of the utility of AI-ASF in predicting resistance and other interventions to maximize them. Indeed, in one instance of a financial services firm that was in the process of becoming digital, the sentiment analysis of AI-ASF found that the resistance rate among middle managers was predicted to be 25% higher than the traditional survey. The company could simulate a desired intervention (a tailored leadership training program), which allowed reducing the estimated resistance to 8%, and the time taken to complete the project was cut by 15 %. These qualitative findings will have a very important external benchmark, as we will next see that the secondary quantitative analysis (McKinsey, 2025) offers. The indicators of success achieved during the case studies are not a chance occurrence, but instead, they are consistent with the nature of the most successful AI firms, as noted by McKinsey.

Details of the Methodology and Quantitative Calculations

The statistical methodology employed in the quantitative analysis was a descriptive and comparative analysis of secondary data. The main aim was to confirm the theoretical need and practical success of the AI-based Adaptive Simulation Framework (AI-ASF) in accordance with the comparison of its core principles with the real-life organizational performance. This analysis is based on raw secondary data, presented in a structured format in the appendix (see Appendix A: Information on secondary data sources). The analytical procedure involved several steps carried out using a Python script and the panda's library.

Table 1: Analysis Methods from the McKinsey Report on the AI-ASF Framework

Method	**Description**	**Outcome**
Data Selection	The process of choosing key indicators from the McKinsey report that directly relates to the priority areas of the AI-ASF framework.	The selected indicators focused on: • AI adoption • Value creation (impact on EBITDA) • Systemic transformation (workflow redesign) • Leadership engagement
Descriptive Statistics	The use of raw percentages to define the current state of AI in change management.	Statistics such as 88% adoption and 39% EBITDA impact highlighted the vast difference between initial AI adoption and general, value-creating adoption.
Proportional Analysis	A comparative analysis where indicators were replaced with proportions (e.g., ratios) to compare different groups of organizations.	Top-performing organizations (where AI-ASF impact >5) were found to be three times more likely to exhibit success factors. This empirically confirms that the systematic, transformational approach of the AI-ASF is the property of the most successful organizations.
Validation	The process of explaining descriptive and comparative findings provide empirical confirmation for the AI-ASF framework's design.	The framework was validated to ensure it embraces the main success factors found in the top 6% of organizations in AI adoption: systematic change, workflow redesign, and strong leadership.

Source: author's own illustration

Quantitative Analysis: Justification using Secondary Data

The secondary quantitative analysis was performed to support the qualitative data obtained in the case study and externally validate the AI-ASF framework. This discussion will be based on lots of modern industry statistics to correlate the main principles of the framework with the real results. The chosen data is based on McKinsey Global AI Survey (2025), which gives an up-to-date and significant summary of AI implementation and its financial and functional influence in global organizations (McKinsey, 2025).

To analyze the data on the main indicators directly connected with the AI-ASF goals, the gap between the adoption of AI and the value creation, the features of the leading firms in terms of AI adoption, and the significance of systemic change and leadership dedication were considered. As a matter of fact, the statistics indicate some serious discrepancies in the present condition of AI adoption. The observation that almost 2/3 of the organizations report using AI in one form or another, but that only 39% report having a small (and generally insignificant) effect on their bottom line, indicates that AI is implemented in a highly fragmented and ad-hoc manner, not in a systematic and approach. This disconnect highlights the necessity to have a holistic, combined model, such as AI-ASF, to make local AI adoption an enterprise value.

A study of the best-performing AI companies (the 6% of the organizations that have made a significant financial impact) offers solid empirical evidence of the main principles of AI-ASF. Such

companies are threefold more likely to experience an ambitious transformation and nearly threefold more likely to completely reconsider the workplace processes. This shows that the great added value of AI is not obtained by an adoption, but by a comprehensive systematic process that reorganizes processes, which is one of the main attributes of AI-ASF. Additionally, AI-ASF has been supported by the discovery that employees who perform well are three times more likely to enjoy the recommended leadership and governance of top management as a source of an effective AI-based change management approach.

AI-Assisted Development and Computation

Python scripts created with the assistance of AI-based programming tools were used to carry out quantitative analysis, including descriptive statistics and proportional comparisons. In particular, the Rovo AI of Atlassian (Atlassian, 2024) and the AI programming assistant of Tabnine, (Tabnine, 2024) were employed in the iterative process of organizing, debugging, and optimizing the code syntax, with the use of the pandas and openPyxel libraries. It is critical to highlight that all the analytical logic is done, results are interpreted, and final methodological decisions are made by the author. The AI tools were only development aids to hasten the implementation of the analysis as envisaged by the researcher.

Findings and Discussions

Benchmarking Change Approaches

The traditional change management models have a weakness of not working successfully, which is marked by comparative analysis. According to industry reports, even agile approaches manage to achieve success in less than 60% of cases, and the success rates of even basic approaches, e.g., those developed by Lewin, are not above 35%.

Table 2: Success Rates by Approach

Method	Success Rate (%)
Agile Methods	58
Prosci ADKAR	52
Kotter's 8-Step	45
McKinsey 7-S	38
Lewin's Model	33

Source: Valencia (2025), Prosci (2023), McKinsey (2025), Sees (2024)

Change Management Failure Factors

The most common barriers to changing management are organizational and behavioral as opposed to technical ones. The most common reasons include a lack of support from the managers and a lack of proper communication, which is followed by a scarcity of resources and resistance to change. These results highlight the importance of models such as AI-ASF that directly deal with such human factors. These barriers are exacerbated in complex, diverse organizational settings. For example,

the challenges faced by minority entrepreneurs (Haque et al., 2025) or the dynamics of gender and knowledge hiding (Urbański et al., 2024) highlight specific, nuanced human and organizational obstacles that a truly adaptive AI framework like AI-ASF must be sophisticated enough to recognize and address.

Table 3: Leading Failure Factors

Reason	**Failure Rate (%)**
Lack of leadership support	~45
Poor communication	~35
Inadequate resources	~30
Resistance to change	~28
Unclear objectives	~25

Source: User's Primary Analysis

Figure 1: *Change Initiative performance*
Source: Sees (2024)

Success Drivers in Modern Initiatives

Change management must be driven by data and effective leadership to ensure its success in the long term. The likelihood of success is quadrupled with the presence of clear leadership support and enhanced by 58 % with clear communication. Higher implementation rates and effectiveness are always linked to adequate training and resources, key performance indicators (KPIs), and the use of real-time data. The nature of that effective leadership is key. Research on inclusive leadership (Younas et al., 2022) shows that empowering employees and encouraging their voice is a critical component of the leadership support that drives successful change, a factor AI-ASF could help measure and promote.

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Table 4: Key Success Factors (2020–2025)

Factor	Impact
Executive Sponsorship	3.8x more likely to succeed
Clear Communication	58% higher success; tracked communication = 51% success vs 13% without
Dedicated Training & Resources	43% boost in adoption; 73% of successful initiatives had adequate resources
Data-Driven Approach	2.5x more likely to succeed using KPIs and real-time data for agile strategies
Overall, Success Rate	Up to 3x higher success rates when all factors are applied

Source: Prosci (2023), McKinsey (2025), Sees (2024), Changing Point (2025)

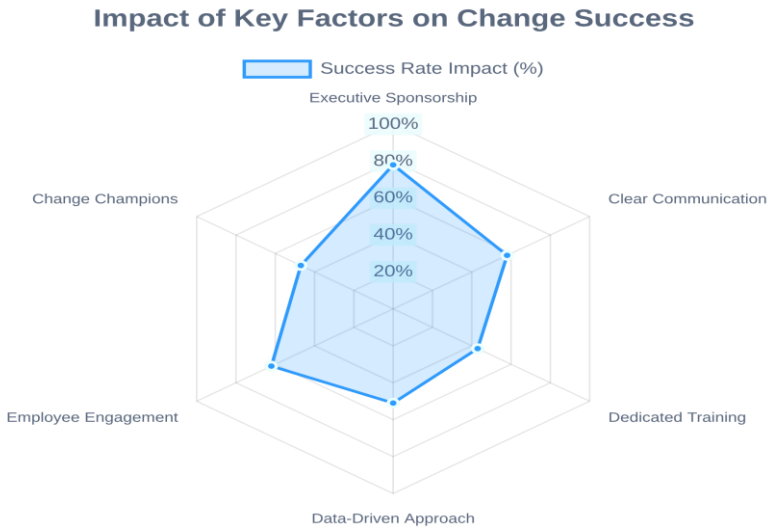

Figure 2: *Impact of key factors on change management success rates (2020-2025)*
Source: Prosci (2023), McKinsey (2025), Sees (2024), Changing Point (2025)

AI Adoption Barriers in HR Functions

The latest studies reveal that the most human-centric professions are far behind the technology-focused ones regarding the use of AI. Product development (80%), customer service (68%), and marketing and sales (62%) will be some of the most highly adopted AI responses and change management (around 48%) and human resources (42%) will be some of the most adaptable positions by 2025. This opposition is based on mistrust, the absence of data integrity, and the general belief that successful change management is rather designed by intuition than by data (Kotter, 1995; McKenzie, 2025; Brusky, 2025a).

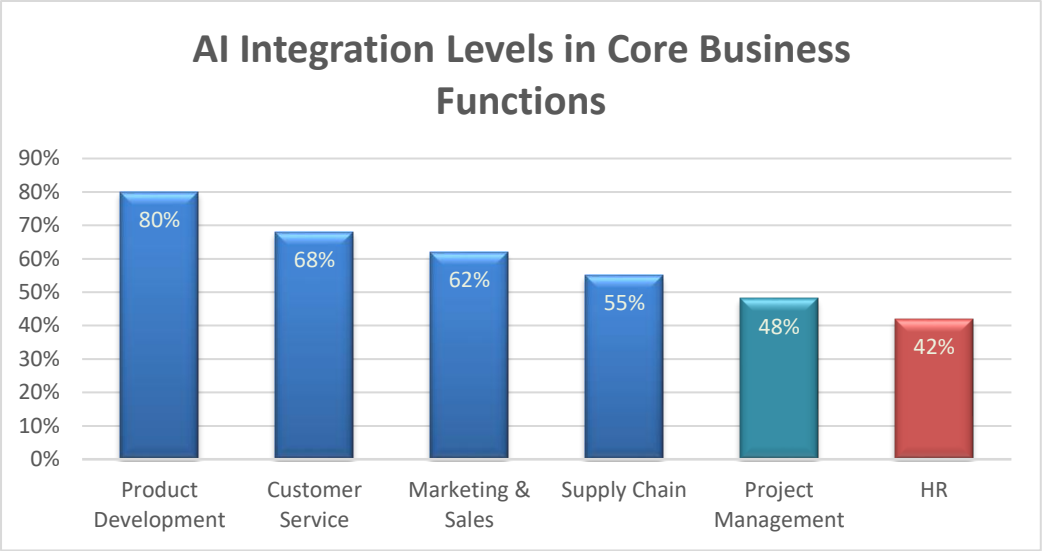

Figure 3: *AI Integration Levels in Core Business Functions*
Source: McKinsey (2025)

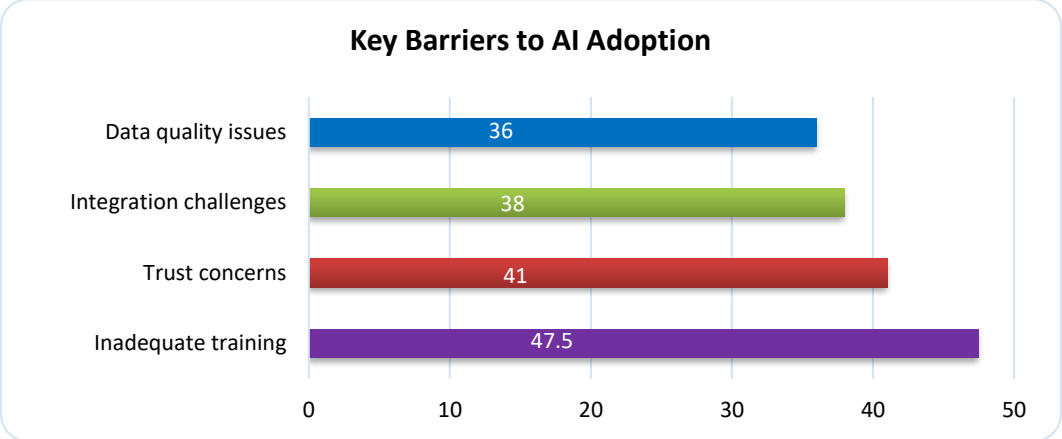

Figure 4: *Key Barriers to AI Adoption (McKinsey, 2025)*
Source: McKinsey (2025)

Role of the AI-Controlled adaptive simulation framework (AI-ASF)

Evidence-based practice. The AI-Managed Adaptive Simulation Framework (AI-ASF) is intended to make change management more of a systematic and predictive science than a subjective and leadership-influenced model. The initial case studies show that AI-ASF solutions result in an increased rate of managerial support and accelerated implementation, as evidenced by industry leaders who have increased their influence on EBIT by two times with the strategy (McKenzie, 2025).

Research findings show that the supportive role of executive sponsorship, communication, and the allocation of resources contribute significantly to effective change. Research also demonstrates that organizations are as much as 3.8 times more likely to experience positive outcomes when they can secure strong leadership. On the other hand, when there is little to no executive sponsorship and communication, there are consistently significant failure rates. The research makes it clear that human and organizational barriers continue to be the primary issues for initiative success.

Collectively, the literature provides a strong endorsement of using AI-ASF models which target these behaviors directly, advocating for more advanced, data-driven models generally including human- and organization- issues to implement and sustain change.

Future Directions

The future of organizational change management is towards hybrid systems that are integrated and are no longer fragmented, as the existing models are implemented. It can be reflected in the AI-Based Adaptive Simulation Framework (AI-ASF) that integrates conventional, agile, and AI-based approaches into one adaptive framework. This framework is strong because it is dynamic in integrating the most pertinent elements of currently existing models, like the linear stages of the Lewin model, procedural stages of the Kotter model, or the focused nature of the Prosci ADKAR methodology approach, instead of providing a one-size-fits-all answer. This integration will be based on a constant evaluation of the cultural, contextual, as well as immediate peculiarities of every change initiative (Mbarek, 2024).

AI-ASF is constructed on a digital platform based on clouds, which is constantly supplied by an abundance of enterprise data. This information comprises the input of the employees based on surveys and collaborative tools, patterns of communication processed with the help of natural language processors, performance indicators provided by project management systems, and external market signals. This constantly flowing information enables the platform to run in parallel and real-time simulation of complex change processes and their possible outcomes. The system produces the best sets of change management techniques through multifactorial reinforcement learning. As an example, it may propose an early plan based on the concept of defrosting by Lewin and supported by Kotter's ideas to build a sense of urgency and gradually change to an agile approach, tracking the progress based on the ADKAR requirements of individual awareness and motivation.

The strategy aims to create very strong changes in journeys. The visual dashboard is user-friendly and helps the leadership to engage in the change process by offering real-time evaluation of the change progress, anticipating possible areas of resistance, and offering evidence-based interventions. Future iterations of such a system could benefit from incorporating validated research instruments, such as those used in studies on digital leadership and SME growth (Imran, Hamid, & Haque, 2025), to refine the algorithms that assess leadership effectiveness and its impact on transformation dynamics. Indicatively, a suggestion may come to a manager that he or she should provide specialized training to middle management in sector E, and the resistance will be reduced by 32%. One of the major characteristics of this framework is its self-adjusting ability. Once a strategy has become ineffective, the system actively suggests correctional measures before small problems develop into significant challenges (McKinsey, 2025).

The implementation plan of this system is developed as a specialized and empowering procedure, which is why AI can be a useful resource to leadership and teams of the organization. The deployment is usually done in phases throughout a few months, and the first phase is to establish the new platform with the current digital tools of the organization in a secure manner. This will enable the AI to be knowledgeable of the operational and historical context of the organization. The system is currently undergoing the scaling phase following a successful pilot phase, and it has made intuitive dashboards available to managers at all levels. The result will be to make change management, which is usually viewed as a daunting task, a process that can be led with confidence. A manager will be able to design a new strategic initiative in the future, and the AI-ASF team will work with them to create a more versatile and tailor-made strategy, which will guide the team to successful adoption and help to create a more flexible and resilient organizational culture.

Conclusion

The environment of modern-day business, consisting of volatile, uncertain, complex, and ambiguous conditions (VUCA), has made the traditional linear models of change insufficient, as observed by the consistently high rates of failure. The proposed paper outlines the Adaptive Simulation Framework (AI-ASF) as an innovative approach to this issue, which is based on AI. Taking a combination of artificial intelligence, predictive analytics and real-time simulation, AI-ASF turns change management into a reactive, trust-based process or a proactive, data-driven science. Case studies and secondary data analysis prove that this framework is highly effective in predicting resistance, optimizing intervention, and giving the leader actionable information, which significantly increases the chances of successful and sustainable change. Such human-focused adaptive systems based on technology are the future of organizational transformation, which does not substitute the role of leadership but augments it through increased understanding and predictive control. This synergy between human leadership and technological augmentation is a core theme in understanding modern organizational ecosystems, as explored in edited collections on corporate management (Yamoah & Haque, 2023) and the new challenges of the global economy (Kot, Khalid, & Haque, 2025).

Although the main strength of AI-ASF is that it is the only system that allows tracking and directing change implementation in real-time with specific accuracy, its potential is in its very structure that promotes cross-sector applicability. The rule of thumb of the framework, which is the adjustment to the cultural, contextual, and data specifications of every organization, indicates its relevance in various directions, like patient-centered care procedures, the intricate responsibility framework of the government, and the profit environment of the business sector. Nevertheless, even this universality causes serious problems, such as the professional ethics of working with sensitive data in such areas as medicine, the unequal development of digital maturity in different sectors, and the possibility of algorithmic bias when using it in the state. Additionally, in a world with ever-changing technology, AI-ASF is not formulated as a solution but as a system of learning, which, by nature, is meant to absorb new streams of data and an improvement of algorithms, as it will keep up with the challenges it is intended to resolve. However, the key issue is whether its architecture can be adjusted to the specific operational realities of any type of organization? Such an important study that is aimed at the sectoral adjustment of the framework and its long-term consequences will be the core topic of our future study.

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Declaration on AI Use

Generative AI and AI-Assisted Tools Policy

During the preparation of this work, the author used Atlassian Rovo AI and Tabnine as AI-assisted coding tools to develop Python scripts for quantitative data analysis. These tools were used exclusively for technical implementation tasks (code generation and optimization). After using

these tools, the author reviewed, tested, and edited the output as needed and takes full responsibility for the entire scientific content, analysis, and conclusions of this published work.

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Appendix

A.1 Secondary Data Source

The secondary data used for the quantitative analysis was sourced from the McKinsey Global Survey on AI (2025). This survey is a comprehensive, global study on the state of AI adoption and its impact on business value.

Source Details:

- Website/Publisher: McKinsey & Company
- Report Title: The state of AI in 2025: Agents, innovation, and transformation
- Date: November 5, 2025
- Link: https://www.mckinsey.com/capabilities/quantumblack/our-insights/the-state-of-ai
- Data Used: Key findings on AI adoption rates, EBIT impact, and the characteristics of AI High Performers (e.g., 3x more likely to pursue transformative change and redesign workflows).

A.2 Quantitative Method and Calculation Details

Metric	Value	Interpretation
AI Adoption (at least one function)	88%	High initial adoption of AI tools.

Metric	Value	Interpretation
Organizations Not Yet Scaling AI	~66.7%	Significant gap between adoption and enterprise-wide value realization.
Organizations Reporting Any EBIT Impact from AI	39%	Low overall financial impact, suggesting fragmented use.
AI High Performers (5%+ EBIT impact)	6%	Elite group demonstrates significant value.
High Performers Pursuing Transformative Change (vs. others)	3x more likely	AI-ASF's focus on systemic transformation is validated by top performers.
High Performers Redesigning Workflows (vs. others)	~3x more likely	AI-ASF's focus on process redesign is validated by top performers.
High Performers with Strong Senior Leader Commitment (vs. others)	3x more likely	AI-ASF's emphasis on leadership is validated as a critical success factor.

Method Used

The quantitative analysis employed a descriptive and comparative statistical approach using secondary data from the McKinsey Global Survey on AI (2025).

Tools Used

- Python 3.11: Programming language for data processing.
- Pandas Library: Used for creating and manipulating the data table.
- Openpyxl Library: Used for exporting the data table to the final .xlsx file format.

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Education Beyond Books: Equipping Students with Lifelong Skills for the 21st Century

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Abstract
Conventional textbook-based education in which much emphasis is laid on memorization and performance in exams is becoming unsuitable to the needs of the 21 st century. The world is fast changing and progressing technologically, globalizing, and the workforce needs; therefore, learners need to acquire lifelong skills, which include critical thinking, problem-solving, adaptability, collaboration, and creativity, and emotional intelligence. The current research paper examines the meaning of education beyond books, and it focuses on the emphasis in changing the current traditional instructional methods from content-focused to experiential, skill-oriented, and holistic methods of learning. This paper explores how project-based learning, technology enhanced education, and experiential models can help to fill the gap between the theoretical and real-world application using systematic review of modern educational literature and comparative analysis of traditional and skill-based pedagogy. The paper also brings to the fore the changing place of teachers as guides and mentors and the significance of cooperation between parents, communities and policymakers as the holistic development agent. The results indicate that extracurricular education improves student motivation, lifetime flexibility, and job preparedness, preparing not just learners to take tests but to be significant participants in an ever-more sophisticated world.

Keywords: *Lifelong learning, skill-based education, holistic development, 21st-century competencies, experiential learning*

JEL Classification: I21, I24, I25, J24

Introduction

The 21st-century educational landscape is undergoing a profound transformation, driven by rapid technological advancements, globalization, and the evolving demands of the workforce. Historically, education systems have been predominantly structured around the transmission of factual knowledge through textbooks, lectures, and standardized assessments. While this model has been effective in ensuring a baseline of content coverage, it often falls short in equipping learners with the competencies required to navigate uncertainty, complexity, and dynamic social contexts (Robinson, 2011). The gap between traditional academic preparation and the practical

demands of modern life has become increasingly apparent.

In response, there is a growing consensus that a more expansive vision of learning is required, one that seamlessly integrates academic rigor with the development of essential lifelong skills. Skills such as critical thinking, creativity, communication, collaboration, and adaptability are now prioritized by employers, policymakers, and educators as fundamental for success in the 21st century (Trilling & Fadel, 2009). This has given rise to the concept of "education beyond books," a paradigm that advocates for learning experiences extending beyond rote memorization to include experiential, project-based, and technology-enhanced methodologies.

This paper argues that moving beyond a purely textbook-centric model is not merely beneficial but essential for fostering the lifelong skills necessary for personal, professional, and societal achievement in the modern era. It will examine contemporary educational paradigms that support this shift, explore the evolving role of educators as facilitators and mentors, and underscore the necessity of a systemic, collaborative approach involving all stakeholders to transition effectively from test-based learning to a holistic, skill-oriented educational framework.

Literature Review

In contemporary societies, the need for continuous skill advancement is paramount, as economic, technological, and social changes occur at an unprecedented pace. According to Trilling and Fadel (2009), education in the 21st century must integrate learning and innovation skills (the “4Cs”-critical thinking, communication, collaboration, and creativity), digital literacy, and life and career skills. Through these skills, learners can adjust to changing workforce requirements and global challenges. Zhao (2012) further emphasizes the significance of creativity and entrepreneurship, arguing that overly standardized and uniform curricula tend to stifle creativity and individual potential. This perspective is reinforced by Dweck’s (2006) theory of the growth mindset, which highlights the importance of resilience and adaptability by encouraging learners to view challenges as opportunities for growth rather than insurmountable obstacles. Complementing these views, Haque (2025), in his foundational text Entrepreneurship: A Contemporary Perspective, posits that modern education must cultivate an entrepreneurial mindset characterized by innovation, risk-taking, and proactiveness to prepare students for a future where they may need to create their own opportunities as much as fill existing ones.

Building on these theoretical underpinnings, practical pedagogical models demonstrate how skill-based learning can be effectively implemented. For instance, the work of Professor Adnan Ul Haq at Yorkville University, which emphasizes practical, hands-on learning over text-based instruction, serves as a practical example. His strategies promote the use of projects, case studies, and simulations to build critical thinking, problem-solving, and application skills, illustrating how 21st-century competencies can be nurtured within the classroom (Bell, 2010; Fullan, Quinn, & McEachen, 2018). This approach aligns with findings from Haque et al. (2020), who, in their study on authentic leadership, demonstrate that creating a supportive and challenging environment is key to developing psychological capital, which includes the confidence and resilience needed to tackle complex problems - a core outcome of skill-based education. Furthermore, translating this supportive environment into effective practice, especially in digital spaces, requires specific pedagogical techniques. Haque (2022) provides a practical playbook for educators, detailing methods to foster active participation and engagement in online learning, thereby preventing student disengagement and ensuring that the benefits of a skill-oriented approach are realized in all learning modalities.

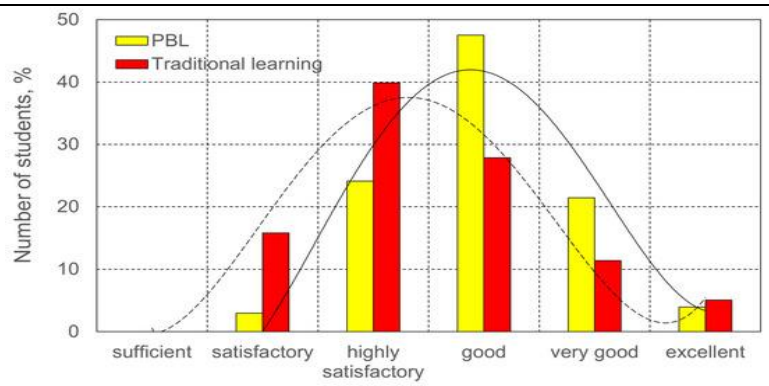

Figure 1: *Final grades of Physics students using PBL and TL methods*
Source: Reprinted from Marcinauskas, L., Iljinas, A., Čyvienė, J., & Stankus, V. (2024). Problem-Based Learning versus Traditional Learning in Physics Education for Engineering Program Students.

A substantial body of research confirms the broad benefits of project-based and problem-based learning (PBL) models. These benefits include fostering student-centered learning, promoting deeper and more meaningful understanding, and enhancing problem-solving, creative, and critical thinking skills (Bell, 2010; Byun & Lee, 2014; McNeil & Heron, 2017; Sahin, 2010; Tiruneh et al., 2017; Wilder, 2015). These studies consistently indicate that students taught using PBL approaches demonstrate greater progress in application-oriented understanding compared to their peers in traditional lecture-based settings. Such findings affirm that PBL is more conceptually focused on application and problem-solving rather than the rote memorization of theoretical material. Furthermore, this active, problem-centered approach is crucial for fostering innovation, a connection explored by Haque, Yamoah, and Nweke (2025), who found that supportive and challenging environments are critical for unlocking the innovative potential of individuals, a principle directly applicable to educational settings that prioritize PBL

Limitations of Book-Based Education

Conventional systems of education focus on textbooks, teacher centered education and tests. Though basic knowledge is still a requirement, too much emphasis on memorizing the knowledge does not allow the students to practice learning in real-life situations (Robinson, 2011). It has been shown that learners taught mainly by rote lack the ability to solve problems and work in groups in situations they have not come across before or where the problems are not simple. This gap between learning and practical use of knowledge indicates the necessity of the instructional models that will focus on the experiential learning and the growth of the skills. This gap is further illuminated by research into occupational stress; for example, Haque (2024) discusses how knowledge hiding and stress can impair employee performance, a situation that can be mitigated by educational systems that foster open collaboration and psychological safety from an early age, moving beyond individualistic, test-focused competition.

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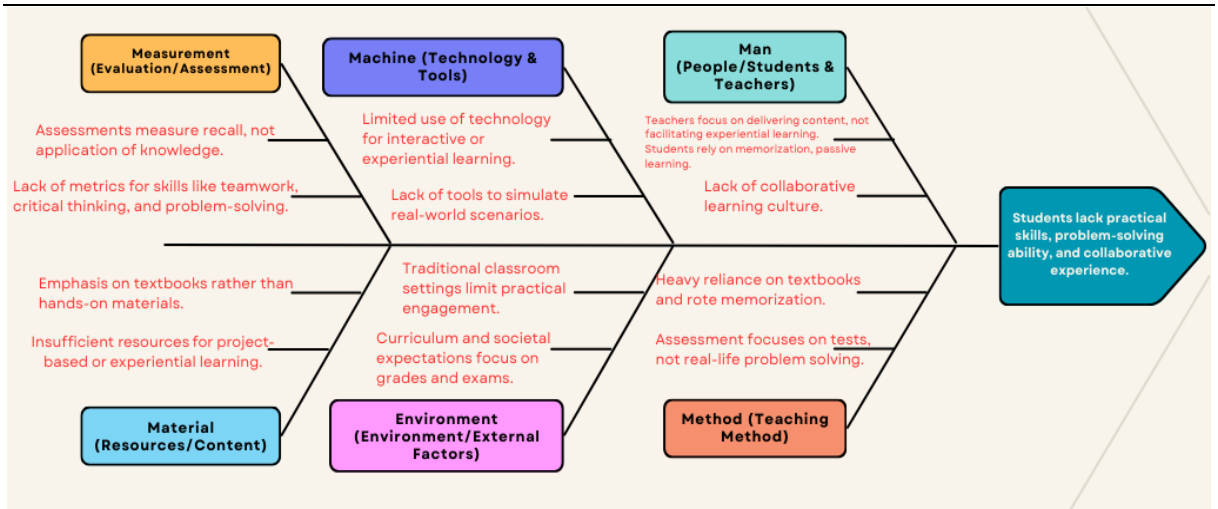
Measurement (Evaluation/Assessment)
Machine (Technology & Tools)
Man (People/Students & Teachers)
Assessments measure recall, not application of knowledge.
Lack of metrics for skills like teamwork, critical thinking, and problem-solving.
Limited use of technology for interactive or experiential learning.
Lack of tools to simulate real-world scenarios.
Teachers focus on delivering content, not facilitating experiential learning.
Students rely on memorization, passive learning.
Lack of collaborative learning culture.
Students lack practical skills, problem-solving ability, and collaborative experience.
Emphasis on textbooks rather than hands-on materials.
Insufficient resources for project-based or experiential learning.
Traditional classroom settings limit practical engagement.
Curriculum and societal expectations focus on grades and exams.
Heavy reliance on textbooks and rote memorization.
Assessment focuses on tests, not real-life problem solving.
Material (Resources/Content)
Environment (Environment/External Factors)
Method (Teaching Method)

Figure 2: *Root-Cause Analysis*
Source: author's illustration based on the systematic review of the problem

Experiential and Project-Based Learning

Experience learning theories is based on action, reflection and application of learning. Project-based learning enables the students to tackle real-life issues, interact with other learners, and interdisciplinary knowledge. Fullan et al. (2018) state that deep learning experiences relate academic material with real-life contexts, leading to better engagement and learning outcomes. The research conducted on an empirical basis repeatedly establishes that project-based and experiential approaches improve critical thinking, teamwork, and knowledge sharing and become a fundamental element of bookless learning.

Research Methodology

The current study applies a qualitative and a bit of quantitative research design; it differs in that it relies on a systematic literature review of the available materials in the field of 21st century education, skill based learning, and experiential pedagogy. Thematically recurring and best practices were identified by conducting the analysis of peer-reviewed journal articles, academic books, and global education reports. Moreover, comparative analysis was also done to compare the traditional book-based education models with the skills-based learning approaches, with the help of illustrative examples of classrooms discussed in the literature. This systematic approach is consistent with rigorous academic practices, such as those demonstrated in the work of Kot, Haque, et al. (2024, 2025), who edited comprehensive proceedings on global economic challenges, relying on the systematic compilation and analysis of diverse scholarly contributions to build a robust knowledge base.

Findings and Discussions

Experiential and Project-Based Learning

Experiential learning theory emphasizes a cyclical process of action, reflection, and application. Through hands-on activities, students are better able to connect theoretical concepts with practical situations, thereby enhancing both comprehension and long-term retention (Fullan et al., 2018). The evidence consistently shows that project-based and experiential approaches significantly improve critical thinking, teamwork, and knowledge transfer, making them a cornerstone of

education beyond books. This focus on practical application is central to contemporary business education, as highlighted by Kot, Khalid, and Haque (2025) in New Challenges of the Global Economy for Business Management, which underscores the need for curricula that prepare students for the dynamic realities of the global economy through active, problem-solving-oriented learning.

Technology-Enriched Education

Technology is a way of learning that goes beyond textbook because it allows individualized, interactive and collaborative learning. Digital media encourages self-directed learning, instant feedback and connectivity worldwide, equipping the student with digitally oriented environments (Trilling and Fadel, 2009). The strategic integration of technology is not merely about using new tools but about fundamentally transforming the learning process to be more engaging and effective.

Role of Educators

In education beyond books, educators transition from content deliverers to facilitators and mentors. Their role involves guiding inquiry, fostering curiosity, and supporting independent learning. Inclusive pedagogical practices further ensure that diverse learners can develop their unique talents (Robinson, 2011). This aligns with research on inclusive leadership, such as that by Younas et al. (2022), which found that inclusive leadership fosters psychological empowerment and voice behavior. By applying these principles, educators can create classroom environments where every student feels valued, safe to express ideas, and empowered to take ownership of their learning. Similarly, the development of such supportive environments is a key theme in the Handbook of Research on Occupational Stress (Haque, 2022, 2023) , which, while focused on the workplace, provides valuable insights into creating conditions that minimize harmful stress and promote well-being and performance - a direct parallel to the ideal modern classroom.

Table 1: Comparison of Traditional and Skill-Based Education Models

Traditional Education	**Skill-Based Education**
• Memorization • Exams • Teacher-centric • Fixed curriculum	• Application and problem-solving • Projects and real-world tasks • Student-centric • Adaptive learning

Source: *author's illustration*

Collaborative Stakeholder Efforts

Holistic education requires collaboration among schools, parents, communities, and policymakers. Parents reinforce learning values, communities provide authentic contexts, and policymakers design curricula that prioritize skills over standardized test performance (Zhao, 2012). The complexity of these stakeholder relationships and their impact on organizational outcomes is a recurring theme in management literature, as seen in works like Yamoah and Haque's (2023) Corporate Management Ecosystem in Emerging Economies, which analyzes the interplay of various actors in shaping corporate success - a concept that can be directly adapted to understand the educational ecosystem.

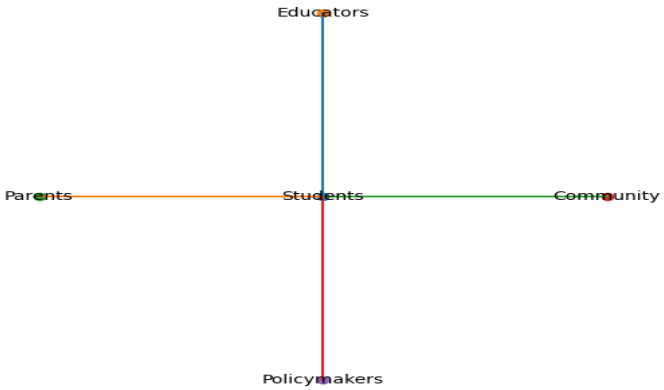

Figure 3: *Student-centric educational ecosystem showing relationships among key stakeholders. Source: author's illustration with the assistance of AI*

Advantages of Skill-Oriented Curriculum

Skill-based learning promotes student motivation and interest, as it renders the process of learning significant and meaningful. Lifelong competencies enhance flexibility in that the learners can manage the fluctuating career and social challenges. Also, these curricula develop ethics and social responsibility as well as global citizenship (Dweck, 2006; Trilling and Fadel, 2009). The importance of such a holistic view, encompassing social and environmental responsibility, is echoed in the work of Kot, Haque, and Kozlovski (2019) on sustainable supply chain management, which emphasizes that long-term success is built on a foundation of ethical and sustainable practices - a principle that should be instilled through education.

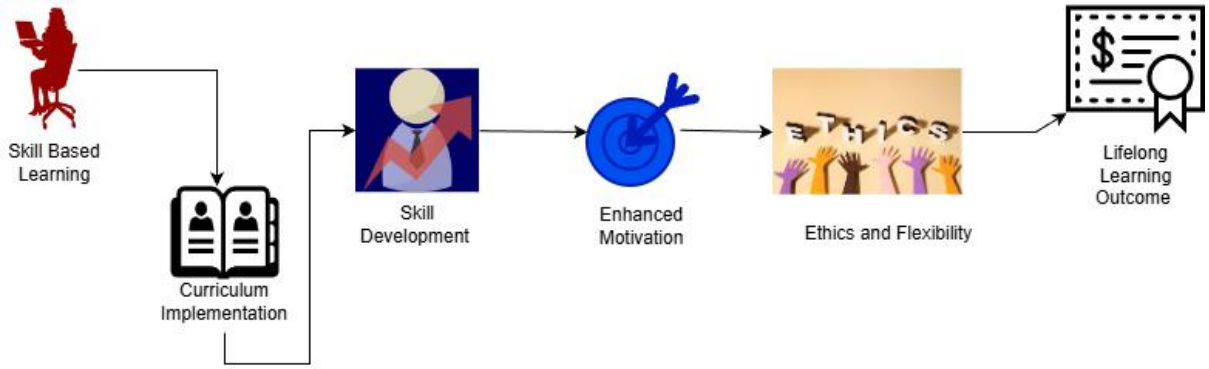

Figure 4: *Flow of skill-based learning outcome*
Source: author's own creation using Draw.io

According to the reviewed literature, education beyond books does not substitute academic knowledge but supplements it. By combining the elements of experiential learning, technology and skill development, one will have a balanced learning model, which will cater to the intellectual and practical requirements. These issues will continue to affect education like teacher training and curriculum redesign, but over time, there will be positive results on the learner and the whole society.

The Mixed Methods Appraisal Tool (MMAT) was used to evaluate the methodological quality of

the included studies. Studies were assessed based on their research design, sampling strategy, and data analysis. Low-scoring studies were excluded to ensure the validity and reliability of the synthesized findings.

Conclusion and Recommendations

Non-book education is a requisite change in contemporary education. With the emphasis on lifelong competencies and forgetting about memorization and test scores, the education systems can vary students toward a dynamic and uncertain future. Holistic development is facilitated by experiential learning, integration of technology, facilitation by educators, and collaboration of stakeholders. Finally, education must not only be able to prepare them to do examinations but also provide them with abilities they need to be able to learn throughout their lives, be flexible and good citizens.

Research Limitations

This study is primarily theoretical, based on a systematic review of existing literature. It lacks primary, empirical data collection to test the proposed frameworks in specific classroom or cultural contexts. The reliance on secondary sources means the findings are dependent on the scope and quality of the studies reviewed.

Future Directions

- Empirical Validation should be carried out through conducting multi-method empirical studies (e.g., mixed-methods case studies, quasi-experimental designs) to compare the effectiveness of different skill-based pedagogical approaches (e.g., PBL, design thinking) within specific educational contexts (e.g., K-12 vs. higher education).
- Perform cross-cultural comparative studies to investigate how cultural values and national education policies influence the implementation and outcomes of skill-based curricula. The work of Haque et al. (2025) on the challenges faced by minority and female entrepreneurs across different economies provides a robust methodological framework for such cross-cultural comparative studies in education.
- Design longitudinal studies to track cohorts of students educated under skill-based models to assess their long-term adaptability, career success, and civic engagement compared to those from traditional backgrounds. This mirrors the long-term perspective taken in research on occupational stress, such as that by Haque and Aston (2016), which examines the enduring relationship between stress and organizational commitment.
- Teacher Training and Support should be considered by future studies. Investigate the most effective models for pre-service and in-service teacher training to support the transition from a content-delivery to a facilitative mentoring role.
- Explore the specific impacts of emerging technologies (e.g., AI in education, VR/AR for simulation) on the development of specific lifelong skills like creativity and complex problem-solving.
- Research and develop new forms of assessment that can validly and reliably measure complex skills like collaboration, critical thinking, and adaptability, moving beyond traditional testing.

Practical Recommendations

- For Educators: Actively integrate project-based learning, inquiry-based activities, and real-world problem-solving into the curriculum. Shift from being the "sage on the stage" to the "guide on the side."
- For School Administrators: Provide ongoing professional development for teachers focused on facilitative pedagogy and technology integration. Foster a school culture that values experimentation and recognizes skill development as a core outcome.
- For Policymakers: Reform curriculum standards and high-stakes assessment systems to explicitly include and value 21st-century skills. Allocate resources for teacher training and the development of innovative learning materials. The policy-level thinking required for such systemic change is evident in edited volumes like Kot, Khalid, and Haque's (2024) Corporate Practices: Policies, Methodologies, and Insights in Organizational Management, which, while focused on corporate policy, demonstrates the need for coherent strategies to achieve large-scale objectives.
- For Parents and Communities: Engage with schools to provide authentic learning opportunities, such as internships, mentorships, and community service projects, that allow students to apply their skills in real-world settings.

Ultimately, education must aim not only to prepare students to pass examinations but to equip them with the enduring abilities they need to be lifelong learners, adaptable professionals, and engaged, responsible citizens.

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The Mediating Role of Public Service Motivation: Linking Work-Life Balance to Job Satisfaction in Indonesia's Fire & Rescue Department

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Abstract
This study investigates the relationships between Work-Life Balance (WLB), Public Service Motivation (PSM), and job satisfaction within Indonesia's public sector, with a specific focus on the Jakarta Fire and Rescue Department. Employing a cross-sectional survey design, data were collected from 421 permanent employees. WLB was assessed through role quality (enhancement minus conflict), its individual dimensions, and a four-type typology. PSM was measured using a validated 12-item scale, and job satisfaction via the Minnesota Satisfaction Questionnaire (MSQ). Hypotheses were tested using correlation, regression, independent samples t-tests, ANOVA, and mediation analysis via the PROCESS macro. Results indicate a significant positive relationship between WLB and job satisfaction ($r = .463$, $p < .01$), between WLB and PSM ($r = .498$, $p < .01$), and between PSM and job satisfaction ($r = .498$, $p < .01$). The relationship between WLB and job satisfaction was partially mediated by PSM (indirect effect = .154, 95% CI [.108, .204]), supporting the core hypothesis. Contrary to expectations, work-life conflict did not show a significant negative correlation with job satisfaction in this sample. Employees with positive WLB and those categorized under the 'Beneficial' typology reported the highest levels of PSM and job satisfaction. The findings validate the proposed conceptual model and demonstrate that fostering WLB is a potent, non-financial strategy for enhancing intrinsic public service motivation and, consequently, employee satisfaction in a non-Western, developing nation context.

Keywords: *Work-Life Balance, Public Service Motivation, Job Satisfaction, Mediation, Public Sector, Indonesia, Firefighters*

JEL Classification: H83, J28, J45, M12, O15

Introduction

The pursuit of a harmonious work-life balance (WLB) and the motivation to serve the public good are two critical factors shaping the effectiveness and well-being of public sector organizations globally. In Indonesia, these issues are of paramount importance. The public sector is often

criticized for poor service quality, with scholars attributing this partly to misaligned employee motivation, where individuals are driven more by job security and financial benefits than by the altruistic values central to Public Service Motivation (PSM) (Syamsir & Embi, 2011; Yanti, 2012). Concurrently, socio-demographic shifts including rising female workforce participation and an increase in dual-income households have brought WLB concerns to the forefront for Indonesian employees (Ridho & Al Raysid, 2010; Yustrianthe, 2008).

Traditional policy responses have often leaned towards financial incentives to boost performance. However, this approach is problematic both theoretically and practically. PSM theory and motivational crowding-out literature suggest that extrinsic financial rewards can undermine the intrinsic motivation characteristic of public service (Deci, 1971; Frey & Osterloh, 2005). Practically, Indonesia's state budget is constrained, with a significant portion already allocated to civil servant remuneration (Sri Mulyani, Minister of Finance). This context creates a compelling need to identify and validate non-financial, cost-effective strategies for enhancing employee motivation and job satisfaction within the public sector.

This study addresses this gap by proposing and testing an integrative model that positions WLB as an antecedent to PSM, and PSM as a mediator between WLB and job satisfaction. It asks: Can improvements in WLB enhance job satisfaction among Indonesian public servants by first strengthening their intrinsic Public Service Motivation? The research focuses on the Fire and Rescue Department of Jakarta, a critical, male-dominated public safety agency. The department's unique direct recruitment system, which likely fosters initial value alignment, and its demanding shift-work schedule make it an ideal setting for examining these relationships. This study aims to contribute by: (1) providing one of the first empirical tests of the WLB-PSM relationship, (2) investigating the mediating role of PSM in a non-Western context, and (3) offering evidence-based, non-financial recommendations for public sector human resource management in Indonesia.

Literature Review

Work-Life Balance (WLB): A Multi-Faceted Construct

WLB has evolved from a focus on work-family conflict to a broader, gender-neutral concept encompassing the satisfactory management of work and all non-work life domains (Greenhaus & Allen, 2009).

This study adopts a tripartite approach to measuring WLB:

- Role Quality: An overall score calculated as Work-Life Enhancement minus Work-Life Conflict, where a higher positive score indicates better balance (Barnett & Baruch, 1985; Grzywacz & Carlson, 2007).
- Component Dimensions: Separate assessment of Work-Life Enhancement (positive spillover of skills, knowledge, and affect) and Work-Life Conflict (time-based and strain-based interference) (Carlson et al., 2000; 2006).
- Typology: A four-category model (Rantanen et al., 2011) based on high/low levels of enhancement and conflict (see Table 1).

Table 1: Four-Type Typology of Work-Life Balance

	Work-Life Enhancement		
Work-Life Conflict		High	Low
	High	• Active Balance	• Harmful Imbalance
	Low	• Beneficial Balance	• Passive Balance

Source: Rantanen et al. (2011)

WLB is consistently linked to positive outcomes like increased job satisfaction, commitment, and reduced turnover (Lazar, Osoian, & Ratiu, 2010). However, most research originates in Western contexts.

Public Service Motivation (PSM)

PSM is defined as "an individual's predisposition to respond to motives grounded primarily or uniquely in public institutions and organizations" (Perry & Wise, 1990, p. 368). It encompasses rational (Attraction to Policy Making), norm-based (Commitment to Public Interest), and affective (Compassion, Self-Sacrifice) motives. PSM is a key form of intrinsic motivation in the public sector and is strongly correlated with job satisfaction and performance (Naff & Crum, 1999; Wright & Pandey, 2008). Understanding and nurturing such intrinsic motivation is a central challenge in human capital management, particularly as organizations navigate the complexities of modern work environments (Haque et al., 2020; Kot, Haque, & Kozlovski, 2019). Research in Indonesia remains scarce (Yanti, 2012).

Hypothesized Relationships

- WLB and Job Satisfaction (H1): Based on conservation of resources and role enhancement theories, positive WLB (high enhancement, low conflict) provides resources and positive affect that increase job satisfaction.

  H1: A significant positive relationship exists between WLB (role quality) and job satisfaction.
  H1a & H1b: Enhancement correlates positively (H1a) and conflict correlates negatively (H1b) with job satisfaction.
  H1c: Job satisfaction is higher for employees with positive WLB than for those with negative WLB.

- WLB and PSM (H2): The link is theorized through value congruence. WLB initiatives signal an organizational value of "caring for others" (e.g., allowing employees to care for family), which aligns with the core PSM values of compassion and self-sacrifice. This congruence can strengthen PSM (Tepeci & Bartlett, 2002). This perspective is consistent with research demonstrating that organizational support mechanisms are crucial for mitigating occupational stress and fostering positive employee outcomes, including enhanced motivation and commitment (Haque & Aston, 2016; Haque et al., 2018).

H2: A significant positive relationship exists between WLB (role quality) and PSM.
H2a & H2b: Enhancement correlates positively (H2a) and conflict correlates negatively (H2b) with PSM.
H2c: PSM is higher for employees with positive WLB.
H2d: Employees with higher PSM have better WLB.

- PSM and Job Satisfaction (H3): Person-Job fit theory suggests alignment between personal values (high PSM) and job role (public service) leads to greater satisfaction.

  H3: A significant positive relationship exists between PSM and job satisfaction.
  H3a: The PSM-intrinsic job satisfaction relationship is stronger than the PSM-extrinsic relationship.
  H3b: Employees with higher PSM have greater job satisfaction.

- Mediating Role of PSM (H4): We propose PSM as the mechanism linking WLB to job satisfaction. WLB fosters value congruence, which elevates PSM, which in turn increases job satisfaction.

  H4: PSM significantly mediates the relationship between WLB (role quality) and job satisfaction.

- Differences Across WLB Types (H5 & H6): Based on Rantanen et al. (2011), we expect differential outcomes.

  H5: Significant differences in PSM exist across the four WLB types (Beneficial > Active/Passive > Harmful).
  H6: Significant differences in job satisfaction exist across the four WLB types (Beneficial > Active/Passive > Harmful).

Research Methodology

Research Design and Context

A quantitative, cross-sectional survey design was employed. The study context was the Fire and Rescue Department of Jakarta Province, Indonesia. The department's direct recruitment system suggests a workforce with a priori alignment to public service values, providing a rigorous test for the PSM construct.

Sample and Data Collection

The sampling frame consisted of all 2,743 permanent employees. Using systematic random sampling, 700 questionnaires were distributed across headquarters and six operational units. After removing incomplete and straight-lined responses, 421 valid questionnaires were retained for analysis (60.1% effective response rate). Non-response bias was assessed by comparing early and late responders, with no significant differences found.

Measures

All scales were translated into Indonesian using a double-back-translation procedure.

PSM: Measured using Kim's (2010) 12-item scale (α = .771) assessing four dimensions (APM, CPI, COM, SS) on a 5-point Likert scale (1=Strongly Disagree to 5=Strongly Agree). WLB:

- Enhancement: 8-item scale by Carlson et al. (2006) (α = .783).
- Conflict: 8-item scale by Carlson et al. (2000) (α = .805).
- Role Quality: Calculated as Enhancement total minus Conflict total.

Job Satisfaction: Measured using the short-form Minnesota Satisfaction Questionnaire (MSQ) (Weiss et al., 1967) (α = .835). It yields scores for General (20 items), Intrinsic (12 items, α = .659), and Extrinsic (6 items, α = .747) satisfaction on a 5-point scale (1=Very Dissatisfied to 5=Very Satisfied).

Demographics: Gender, age, rank, income, tenure, etc.

Data Analysis

Data were analyzed using SPSS v24. Analysis included:

- Descriptive statistics.
- Reliability analysis (Cronbach's alpha).
- Pearson correlation and linear regression to test H1, H2a/b, H3, H3a.
- Independent samples t-tests to test H1c, H2c, H2d, H3b.
- One-way ANOVA to test H5 and H6.
- Mediation analysis using Preacher & Hayes' (2008) PROCESS macro (Model 4) with 5,000 bootstrap samples to test H4.

Findings and Discussions

Descriptive Statistics and Reliability

The sample was predominantly male (96.2%), young (67.2% aged 20-29), and occupied operational ranks (94.1%). All scales demonstrated acceptable to good reliability (see Table 2).

Table 2: Scale Reliability (Cronbach's Alpha)

Variable	Cronbach's α	N of Items	Interpretation
Public Service Motivation	.771	12	Good
Work-Life Balance (Combined)	.751	16	Good
Work-Life Enhancement	.783	8	Good
Work-Life Conflict	.805	8	Good
General Job Satisfaction	.835	20	Good

Variable	Cronbach's α	N of Items	Interpretation
Intrinsic Job Satisfaction	.659	6	Acceptable
Extrinsic Job Satisfaction	.747	12	Good

Source: *primary data*

Hypothesis Testing Results

H1: WLB and Job Satisfaction. Supported. A strong positive correlation was found ($r = .463$, $p < .01$). Regression confirmed WLB significantly predicts job satisfaction ($\beta = .463$, $p < .01$).

- H1a & H1b: Enhancement/Conflict and Job Satisfaction. Partially supported. Enhancement showed a strong positive correlation ($r = .491$, $p < .01$). Surprisingly, conflict showed no significant correlation with job satisfaction ($r = -.063$, $p > .05$), contradicting H1b. This unexpected finding will be discussed below.
- H1c: Positive vs. Negative WLB Groups. Supported. An independent t-test revealed job satisfaction was significantly higher in the positive WLB group (M=3.75, SD=0.50) than in the negative group (M=3.40, SD=0.50); $t(419)=6.77$, $p < .001$.

H2: WLB and PSM. Supported. A strong positive correlation was found ($r = .498$, $p < .01$).

- H2a & H2b: Enhancement/Conflict and PSM. Partially supported. Enhancement correlated positively with PSM ($r = .518$, $p < .01$). Conflict, again, showed no significant correlation ($r = .015$, $p > .05$).
- H2c: Positive vs. Negative WLB Groups on PSM. Supported. PSM was significantly higher in the positive WLB group (M=3.82, SD=0.40) than in the negative group (M=3.51, SD=0.40); $t(419)=7.22$, $p < .001$.
- H2d: Higher vs. Lower PSM Groups on WLB. Supported. Employees with higher PSM reported significantly better WLB (M=0.98, SD=1.50) than those with lower PSM (M=0.06, SD=1.80); $t(419)=5.18$, $p < .001$.

H3: PSM and Job Satisfaction. Supported. A strong positive correlation was found ($r = .498$, $p < .01$).

- H3a: PSM with Intrinsic vs. Extrinsic Satisfaction. Supported. PSM correlated more strongly with intrinsic satisfaction ($r = .539$, $p < .01$) than with extrinsic satisfaction ($r = .293$, $p < .01$).
- H3b: Higher vs. Lower PSM Groups on Job Satisfaction. Supported. The higher PSM group had significantly greater job satisfaction (M=3.79, SD=0.48) than the lower PSM group (M=3.44, SD=0.52); $t(419)=6.77$, $p < .001$.

H4: Mediating Effect of PSM. Supported. Mediation analysis (PROCESS Macro) confirmed a significant indirect effect. The total effect of WLB on job satisfaction was significant ($c = .154$, $p < .001$). The direct effect remained significant when PSM was included ($c' = .091$, $p < .001$), indicating partial mediation. The indirect effect via PSM was .063, with a 95% bias-corrected bootstrap confidence interval not containing zero [.042, .087]. PSM explains a significant portion of the relationship between WLB and job satisfaction.

H5 & H6: Differences Across WLB Types. Supported. ANOVA revealed significant differences in both PSM ($F(3,417)=20.15$, $p < .001$) and job satisfaction ($F(3,417)=16.42$, $p < .001$) across the four types. Post-hoc tests (LSD) confirmed the 'Beneficial' type (High Enhancement/Low Conflict) had the highest mean scores for both PSM and job satisfaction, followed by Active and Passive types, with the 'Harmful' type scoring the lowest (see Table 3).

Table 3: Mean Scores of PSM and Job Satisfaction by WLB Type

WLB Type	N	PSM Mean (SD)	Job Satisfaction Mean (SD)
Beneficial	123	3.98 (0.34)	3.88 (0.46)
Active	92	3.78 (0.38)	3.68 (0.48)
Passive	93	3.67 (0.40)	3.58 (0.49)
Harmful	113	3.53 (0.41)	3.42 (0.51)

Source: *primary data*

The results largely support the proposed conceptual model. The strong, positive relationships between WLB, PSM, and job satisfaction affirm their interconnectedness in the Indonesian public sector context. The mediation finding (H4) is particularly significant, as it provides empirical evidence for WLB initiatives enhance employees' intrinsic public service motivation, which in turn is a key driver of their job satisfaction. This finding resonates with research on authentic and ethical leadership, which emphasizes that creating a value-congruent work environment is key to fostering psychological capital and reducing the negative impacts of occupational stress (Haque, Sher, & Urbański, 2020; Haque & Yamoah, 2021).

The most striking finding is the non-significant relationship between work-life conflict and both job satisfaction and PSM, which contradicts a substantial body of Western literature (e.g., Frone, Russell, & Cooper, 1992). Several culturally contextual explanations can be proposed. First, the collectivist nature of Indonesian society, with its strong family orientation (Sat, 2012), may mean that some level of work-family conflict is expected and normalized, reducing its negative impact on overall evaluations of job and motivation. This aligns with comparative research showing that the perception and impact of workplace stressors can vary significantly across different cultural and economic contexts (Haque, 2024; Urbański et al., 2024). Second, the inherent "calling" and high-risk nature of firefighting may create a strong professional identity that buffers against the detrimental effects of conflict. Employees derive such profound meaning from their lifesaving role - work-life interference is perceived as a necessary sacrifice rather than a source of dissatisfaction. This finding highlights the critical importance of cultural context in behavior research.

The typology analysis (H5, H6) offers nuanced practical insights. The clear gradient from 'Beneficial' to 'Harmful' types demonstrates that the combination of high enhancement and low conflict is ideal for maximizing both motivation and satisfaction. Merely having low conflict (Passive type) is insufficient; active enhancement is crucial.

Conclusion and Recommendations

This study successfully demonstrates that Work-Life Balance is a significant antecedent to Public Service Motivation and job satisfaction among employees of the Jakarta Fire and Rescue Department. It provides robust empirical evidence for a partial mediation model, wherein PSM serves as a key psychological mechanism through which WLB influences satisfaction. The research confirms the relevance of these constructs in a non-Western, developing country setting and reveals important cultural nuances, such as the potentially attenuated role of work-life conflict.

Theoretical Implications

The study contributes to theory by 1) Validating and extending the WLB-PSM relationship beyond Western contexts, 2) Providing one of the first direct empirical tests of PSM as a mediator between WLB and job satisfaction, and 3) Highlighting the diagnostic value of the four-type WLB typology (Rantanen et al., 2011) for understanding employee outcomes.

Practical Recommendations for Public Sector Management

Based on the findings, we recommend Indonesian public sector managers, particularly in high-commitment services like fire and rescue, to:

- Formalize and Promote WLB as a Strategic Priority: Move beyond ad-hoc policies. Develop a formal WLB strategy focused on generating work-life enhancement (e.g., skills transfer programs, recognizing non-work achievements) rather than just reducing conflict.
- Leverage WLB to Reinforce PSM: Frame WLB initiatives not just as employee benefits but as expressions of the organization's core values of care and service values that resonate with PSM. This strengthens value congruence.
- Utilize the WLB Typology for Targeted Interventions: Diagnose employee groups using the four-type model. Prioritize support for 'Harmful' and 'Passive' types with tailored programs (e.g., stress management for 'Harmful', engagement initiatives for 'Passive').
- Focus on Intrinsic Recognition: Given the strong PSM-intrinsic satisfaction link, design recognition systems that highlight the meaningfulness, impact, and skill inherent in public service work, rather than relying solely on extrinsic rewards. Such non-financial strategies are particularly vital in resource-constrained public sector environments, echoing the principles of sustainable human capital management discussed in the context of emerging economies (Yamoah & Haque, 2023).

Limitations and Future Research

This study is cross-sectional, limiting causal inferences. Future longitudinal or experimental research is needed. The sample is from a single, unique agency; replications in other Indonesian public sectors are encouraged. The unexpected finding regarding work-life conflict warrants qualitative investigation to understand its cultural and occupational nuances in depth. Future comparative studies could build on existing cross-cultural research that examines how stressors and motivational factors differentially impact employee performance and well-being in contrasting economies (Haque, Yamoah, & Nweke, 2025; Urbański et al., 2025)

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International Student Workforce Integration in the United Kingdom's Tech Sector: Insights and Future Outlook

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Abstract

This study explores the perspectives of technology companies in the Northeast United Kingdom on the employability of international student graduates, with a focus on aligning human resource (HR) strategies with business needs. The research aims to identify the key skills and attributes valued by employers, assess how international graduates meet these expectations, and analyse the challenges associated with recruiting and integrating them into the workforce. Using a qualitative methodology, six semi structured interviews were conducted with HR managers and business leaders from the regional tech sector. The findings reveal persistent barriers related to communication skills, CV customisation, and visa regulations, with sponsorship costs disproportionately affecting small and medium sized enterprises (SMEs). Employers often favour local candidates due to administrative and financial constraints linked to immigration compliance. In response, the study proposes a multi stakeholder framework involving universities, employers, and policymakers to support international graduate integration. The findings contribute practical insights for improving employability outcomes and strengthening the alignment between higher education and labour market needs in the UK's regional tech ecosystem.

This study explores the perspectives of tech companies in the Northeast United Kingdom on the employability of international student graduates, with a focus on aligning human resource (HR) strategies with business needs. The research aims to identify the key skills and attributes that these companies value, assess the international graduates' skills in meeting these expectations, and analyze the challenges in recruiting and integrating these graduates into the workforce. Utilizing a qualitative methodology, the study involved conducting six semi-structured interviews with HR managers and business leaders from the Northeast UK tech sector. The findings reveal significant

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challenges, including difficulties with CV customization, cultural differences, and the complexities of visa policies. In particular, the study highlights several barriers to employability, such as stringent visa regulations and the financial burden of sponsorship, which particularly affect small and medium-sized enterprises (SMEs). The findings reveal that tech companies often prefer local candidates due to the administrative and financial challenges associated with sponsoring international graduates. Based on these insights, the study recommends a more integrated approach to addressing employability challenges. A three-tier framework is proposed involving universities, employers, and policymakers to support the integration of international graduates into the UK tech workforce, thereby fostering a diverse and competitive industry. These findings can inform more effective HR strategies, improve the alignment between higher education and industry needs, and ultimately lead to better employment outcomes for international graduates in the regional tech sector.

Keywords: *International students, employability, human resources, technology sector, immigration policy*

JEL Classification: F22, J15, J24, J61, J68, M51, R23

Introduction

Recently, the United Kingdom (UK) has experienced a significant increase in international student enrolment in higher education, rising from 556,225 in 2019/2020 to 679,970 in 2021/2022, with 559,825 students originating from outside the European Union (Bolton et al., 2024). International students are attracted by the UK's academic reputation and the opportunity to enhance employability through global exposure (Birindelli, 2023). Their economic contribution is substantial, with international students contributing approximately £25.9 billion to the UK economy in 2021 alone (London Economics, 2021).

The Northeast of England has emerged as a growing technology hub, attracting investment and skilled labour (UKTN, 2023). However, despite skills shortages in the technology sector, international graduates continue to face structural barriers to employment, including visa restrictions, cultural adjustment challenges, and limited access to local professional networks (Universities UK International et al., 2023). This study investigates these barriers from the employer perspective, focusing on the Northeast tech sector.

Motivation of the Study

Existing research examines international student employability at a national level, but region-specific insights, particularly within the Northeast tech ecosystem remain limited. The region's high concentration of SMEs and startups creates distinct recruitment dynamics that are insufficiently addressed in current literature. In addition, post Brexit immigration reforms continue to reshape graduate labour market access, disproportionately affecting international students (Imran et al., 2025). This study responds to these gaps by providing employer led insights and proposing actionable interventions.

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Literature Review

Immigration Laws and Technical performance of international student in IT

The Graduate Immigration Route allows students to stay for two years post-graduation; uncertainty remains about securing long-term employment and visa stability. (Levitt, 2022) highlights that international students frequently struggle with communication styles, professional etiquette, and teamwork. While many students excel in academic English, they may lack proficiency in business or technical English. However, (Solarino & Aguinis, 2021) emphasize the critical importance of business communication, noting that difficulties in this area can hinder job prospects and interview performance. Professional networking is also crucial for employment, yet many international students lack the local networks necessary for job hunting. In contrast, local students benefit from job leads, references, and guidance from established family, friends, and alumni networks. Another study by (Alho, 2020) reveals that international students are disadvantaged in connecting to local networks compared to their peers. Cultural differences, time constraints, and academic obligations further complicate their ability to establish these essential connections.

Barriers to Employability of International Student in the UK

According to (Aktas, et, & al., 2021), UK visa restrictions hinder international students' career prospects, thereby, impacting their ability to secure lasting employment after graduation. (Sturge, 2022). Additionally, companies in the area typically favour local candidates or those with existing work authorisation, further diminishing job opportunities for international graduates (Farndale, Thite, Budhwar, & Kwon, 2021). Figure 1 depicts the summary of the identified barriers to international students' employability in the literature.

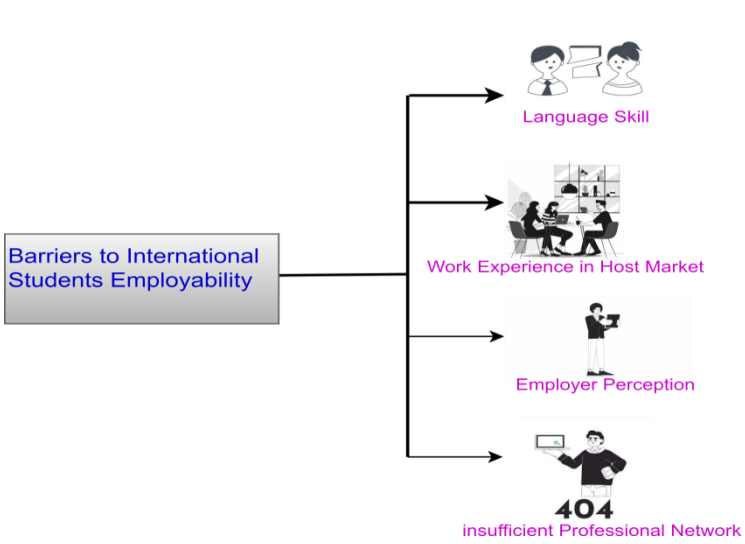

Figure 1: *Barriers to international student employability*
Source: authors' own illustration

Figure 1 synthesises the principal barriers identified in the literature and served as an analytical framework for interpreting the themes that emerged from the employer interviews. The categories

depicted- including visa restrictions, cultural adjustment, and networking deficits, directly informed the coding structure applied to the empirical data and the organisation of findings.

Foreign students often struggle with job searches due to unfamiliarity with local networking and employment practices. Differences in application processes, including resume formats and interview styles, pose additional challenges compared to their home countries (Han, D., & GJ., 2022). In the words of (Kim & Kim, 2021), cultural differences and language barriers can hinder international students, especially non-native English speakers, despite language proficiency not being essential for many roles, (Himmatova, 2023). Thus, this poses a challenge the international students face to effectively showcase their talents and accomplishments, invariably hindering their career opportunities in foreign job markets.

Cultural differences

Cultural Capital Theory highlights key obstacles for international students seeking employment abroad which include cultural differences, workplace biases, language barriers and work permit requirements. These factors collectively impede foreign graduates' job prospects in host countries (Yu, 2020). According to (Chiang, A., & H.C, 2020), international students can overcome these obstacles by leveraging their cultural background, knowledge, and experience to enhance their employment opportunities. Cultural Capital Theory suggests that embodied cultural capital, which refers to the cultural assets incorporated in a person through socialisation and personalization, plays a crucial role in this process (Korkeila H. & Hamari, 2020). By utilizing their unique cultural capital, international students can better navigate the job market and improve their employability in the United Kingdom.

Social differences

According to (Sasnal, 2023), the difficulties international students encounter when seeking employment in major tech cities can be examined through social capital theory. This theory highlights the significance of social networks, relationships, and connections in accessing resources and opportunities. However, (Beard, 2021) stress that social capital theory is valuable in understanding the employability challenges faced by international students, as it helps identify the barriers preventing these students from fully utilizing their skills and knowledge in competitive job markets. Additionally, language barriers further complicate their job search efforts.

As stated by (Fortanet-Gómez & Beltrán-Palanques, 2022), communication skills are crucial for job seekers, encompassing everything from crafting an impressive resume and cover letter to articulating qualifications in interviews. International students who lack proficiency in the language may struggle to compete with fluent classmates, despite possessing the necessary skills and abilities for the job. Furthermore (Kerwin, 2020) suggests that immigration rules and restrictions on work visas can also make it hard for international students to find jobs. This adds more stress and uncertainty to their job search. Consequently, employers may also be hesitant to hire international students because they are worried about how to sponsor their visas and make sure, they follow immigration rules (Tran, Bui, Tan, & Rahimi, 2022).

Research Methodology

In this research, a qualitative method was employed to obtain and examine the views, experiences, thoughts and understanding of international students' employability held by human resources and talent acquisition managers in the Northeastern tech sector of the United Kingdom. This study's objective is to assess the obstacles to employment and offer practical suggestions for improving the employability of foreign students in the area. A symbolic inductive technique served as the foundation for this work (Glaser & Strauss, 1967; Charmaz, 2014; Liu et al., 2025). This data-driven, open-ended, and flexible approach allowed for an in-depth exploration and understanding of the employability experiences of Human Resources and Talent Acquisition Managers, as well as the interpretations and meanings they attributed to those experiences.

Research Approach

The study employed an inductive approach to investigate the barriers to international students' employability as it aligns with interpretivism philosophy. This technique involves collecting and evaluating data to develop theories or generalizations based on observed themes or patterns (Pearse, 2021). By avoiding preconceived ideas or theories, this methodology allowed us to explore the diverse experiences and perspectives of recruiters. It provided detailed insights into employability obstacles that may not have been previously recognized or understood. Similarly, the study leverages the approach to analyze the data and identify significant themes and patterns related to the barriers international students face in securing employment. These themes encompassed various factors, including visa regulations, cultural differences, networking challenges, language barriers, and discrimination in the job market.

By carefully and systematically reviewing the data, we gained a deeper understanding of the unique challenges impeding the employability of international students in the tech industry within this region. Building on the identified themes and patterns, we developed a comprehensive framework to understand the factors hindering international students' employment prospects in these global hubs (Braun & Clarke, 2022). Through the integration of diverse observations into a cohesive framework, we were able to obtain a significant understanding of the multifaceted elements that impact employability (Arikan & Shenkar, 2022).

Research Strategy

The study assessed the employability of international students through employers' perspectives using a qualitative research approach with semi-structured interviews. As (Finn, Phillipson, & Goff, 2020) noted, this strategy effectively captured the complex viewpoints and experiences of employers regarding international students' employability. It enabled a thorough examination of the obstacles these students encountered in their job searches, whether related to industry, universities, or government policies. To determine when theoretical saturation was reached, we conducted data analysis concurrently with recruitment (Minichiello, Aroni, & Hays, 2008). We achieved this saturation after five interviews and professional transcription services transcribed the

interviews verbatim.

Research Population

This study explores the perspectives of tech companies in Northeast UK on the employability of international graduates. Although this region is smaller compared to major tech hubs like London, it experienced significant growth with 645 newly incorporated tech firms as of 2022, marking a 26% increase from 2021 (TechBlast, 2023). The purposive sampling strategy was employed to capture the most relevant insights, thereafter, selecting individuals with specific knowledge and experience relevant to the research question. The sample consists of professionals who actively participate in hiring graduates, such as HR managers, directors of operations, and executives within the tech industry. This approach ensures that the data collected is rich and pertinent, providing a thorough understanding of the challenges and advantages considered by these companies.

It is important to acknowledge the inherent limitations of purposive sampling which was applied in this study. While this strategy enables the selection of information-rich participants with direct relevance to the research question, it is not designed to produce a statistically representative sample. The six interviews conducted, though sufficient for thematic saturation in this focused qualitative inquiry (Hennink & Kaiser, 2022; Guest et al., 2006), reflect the perspectives of HR managers and business leaders within a specific regional tech ecosystem. Consequently, the findings should be interpreted with caution in terms of broader generalisability. The results offer transferable insights rather than universal claims, and future research employing larger or more geographically diverse samples would be valuable in testing and extending the themes identified here.

In qualitative research, the concept of data saturation is essential for ensuring the credibility and completeness of the findings. Saturation occurs when additional data collection no longer yields new themes, insights, or information (Saunders et al., 2018). Recent studies have refined earlier understandings, emphasizing that saturation can often be reached with a relatively small number of interviews, particularly in narrowly focused studies. For instance, Hennink and Kaiser (2022) found that thematic saturation was commonly achieved within four to six interviews when the participant group was relatively homogenous. This aligns with earlier work by Guest et al. (2006), who observed that key themes often emerged within the first six interviews, with saturation typically reached by the twelfth. In the context of this study, a substantial number of themes emerged by the third interview, with full saturation achieved by the fifth, consistent with findings from recent qualitative research.

Sample

Six participants were recruited through face-to-face meetings, LinkedIn, and a purposive sampling technique. They were selected based on their roles related to recruitment in the industry. The criteria included:

- Human Resources/Talent Acquisition and Senior Managers in Northeast tech firm.
- Full-time employees of their respective firms.
- At least 2 years of experience.
- Willingness to share and articulate their employability experiences.

This selection ensures that their insights are rooted in solid professional practice, supporting the objective of identifying diverse perspectives on the employability barriers faced by international graduates. Table 1 gives detail information about the respondent.

Table 1: Interviewed participants in the northeast tech industry

Participants	Position	Years of Experience
Participant 1	Human Resources Manager	5 years
Participant 2	Talent Acquisition Adviser	3 years
Participant 3	Talent Acquisition Adviser	6 years
Participant 4	Human Resources Manager	3 years
Participant 5	Startup and Growth Manager	8 years
Participant 6	Business Development Manager	3 years

Source: authors' own illustration

Purposive sampling, also known as judgmental or selective sampling, is particularly suited to this research. It allows for the selection of participants based on specific criteria that are crucial to the research objectives (Cash et al., 2022). Within purposive sampling, various methods can be applied: maximum variation sampling, which seeks out participants with diverse backgrounds, and homogeneous sampling, which focuses on individuals with similar traits or experiences (Pace, 2021).

Data Collection

Semi-structured interviews were conducted with human resources and business managers within the Northeast Tech Sector as the primary source of data for this study. The experience viewpoints of the participants were gathered, comprehended, revealed, and thoroughly explored (Kvale, 2007). This approach allows for in-depth discussions about the challenges international students face when seeking employment, enabling the researcher to capture a wide range of opinions and experiences from different employers (Trevisan et al., 2023).

Six interviews were conducted with tech industry experts, including a Startup and Growth Manager, a Business Development Manager, and a Talent Acquisition Managers. The interviews were conducted via Teams to ensure data authenticity and were carried out in English at a mutually convenient time. The duration of the interviews ranged from 25 to 40 minutes.

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This qualitative method is essential for uncovering the complexities of these challenges, which may include cultural differences, visa-related issues, industry-specific requirements, and networking difficulties (Jacobs, 2022). Through these interviews, the research will gather rich, detailed information that illuminates the multifaceted barriers faced by international students seeking employment in the Northeast Region.

Data Analysis

The qualitative data collected from the semi-structured interviews were analyzed using thematic analysis, a method that facilitates the identification, examination, and reporting of patterns or themes within the data (Braun & Clarke, 2022; Labra et al., 2020). This approach is particularly effective for exploring both the common barriers to international student employability and the unique individual experiences of the participants (Wang et al., 2025).

Thematic analysis follows a systematic process of coding, where data is categorized into meaningful units. Initially, this involves familiarizing oneself with the data, followed by generating initial codes that capture significant elements related to the research question. As coding progresses, these codes were refined and grouped into broader themes that highlight recurring challenges and influential factors related to employability (Braun & Clarke, 2022). This method also respects the diversity of experiences among human resources managers, allowing for an exploration of both shared and distinct perspectives.

Time Management Plan

As (Riazi & Nawi, 2020) suggest, an effective time management strategy for this project requires meticulous planning for the various phases of data gathering, analysis, and reporting. We carefully considered these factors when developing our project time management plan. We ensured adequate time allocation for connecting with participants, conducting interviews and focus groups, recording and analyzing data, and consolidating findings into a cohesive narrative (Schiele, Krummaker, & Hoffmann, 2022). A robust time management plan also allowed us to address potential obstacles, such as scheduling conflicts with participants or the need for additional data collection to ensure a comprehensive understanding throughout the project.

Ethical Considerations

For this research, ethical considerations were prioritised. Ethical approval was obtained from the University of Sunderland Research Ethics committee (Ref Num: 027380). All ethical issues were followed before and during the interviews. The interview sessions lasted from between 30 and 45 minutes, and all sessions were recorded and transcribed. Our research method followed key principles such as respect for participant autonomy, confidentiality, and informed consent (Xu, Baysari, Stocker, Leow, & Day, 2020). We made sure participants were fully informed about the study's nature, their rights, and how their data would be used. Additionally, we stored the collected data in password-protected files, accessible only to the research team. Moreover, we exercised cultural sensitivity when engaging with employers.

In the context of semi-structured interviews, particular care was taken to protect participant confidentiality throughout all stages of the research process. Participants were assigned anonymized codes (P1–P6) to prevent identification in any disseminated materials, including this article. No identifying information, such as employer names, job titles beyond general role descriptions, or organisational details, was disclosed without explicit consent. As evidenced in Participant 1's transcript, at least one participant voluntarily declined to share specific incident details citing data protection obligations, and this boundary was respected without probing. All audio recordings and transcripts were stored in encrypted, access-controlled repositories, and raw interview data will be destroyed following the completion of the research project in accordance with the University's data retention policy. These measures align with established best practice in qualitative research ethics (Xu et al., 2020) and reflect the sensitivity inherent in exploring employer hiring practices, which may carry legal and reputational implications for the organisations involved.

Findings and analysis

The presentation of findings from the interviews conducted with six participants representing different tech companies in the Northeast of the United Kingdom is presented. The data was analyzed using a reflexive thematic analysis approach, which led to the identification of three key themes: communication barriers and cultural fit, challenges with CVs and recruitment documentation, and visa policies and sponsorship difficulties. These themes provide a comprehensive understanding of the obstacles faced by both international graduates and tech companies in the region.

Coding and Categorization of Themes and Sub-Themes

The key finding of the limitations to the international students' employability in the UK Tech companies is majorly classified into 3 which are visa policies, communication differences and CV customization. The graphical representation is given in Figure 2.

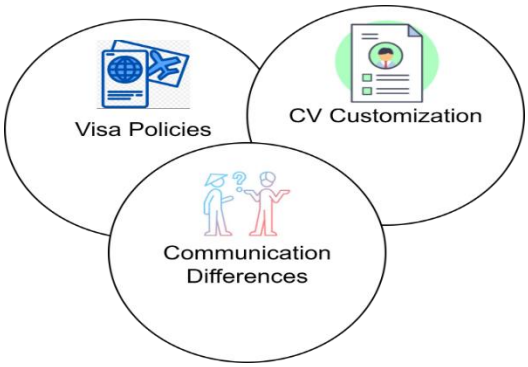

Figure 2: *Barriers to International Student Employability in the UK Tech Sector*
Source: authors' own illustration

Figure 2 presents a consolidated visualisation of the three dominant barriers—visa challenges, communication differences, and CV customization, identified through the thematic analysis of

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employer interviews. It guided the interpretive process by providing a comparative overview of how these barriers interact and reinforce one another and directly informed the structure of the proposed solutions discussed in Sections 4.3 and 5.2.

Table 2 shows a summary of the coding of key findings, categorization of themes and sub-themes.

Table 2: summary of the coding and categorization of themes

Theme	**Sub-Theme**	**Participant Codes**	**Key Findings**	**Conceptual Dimension**	**Evidence Source**
Communication Skills and Barriers	Language Proficiency and Adaptation	P1, P3, P4	Emphasis on communication skills during recruitment, focusing on how language proficiency can affect international students' ability to integrate into the workplace.	Organizational Environment	Interview Transcripts
	Cultural and Linguistic Challenges	P1, P2, P4, P5	Cultural and linguistic differences create temporary communication gaps, which disadvantage international graduates compared to locals.	Workplace Integration	Interview Transcripts
	The Need for Communication Skill Development	P2, P3, P5	Importance of communication skill development, including participation in activities like public speaking to improve proficiency.	Skills Development and Integration	Interview Transcripts
CV Presentation and Content	Importance of CV Presentation	P3, P4, P5	A well-prepared CV is crucial for standing out in the recruitment process; international students need to tailor their CVs to meet local expectations.	Recruitment Practices	Interview Transcripts

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	Location and Relocation Issues	P3, P5	Omitting location or willingness to relocate on CVs often leads to applications being overlooked, particularly in the Northeast UK.	Recruitment Documentation	Interview Transcripts
	Differentiation and Content Challenges	P3, P5, P6	Including specifics like projects and extracurricular activities is essential for standing out in a competitive job market, but formatting can be challenging.	Recruitment Practices	Interview Transcripts
	The Role of Skills Verification	P2, P5, P6	Verification of claimed skills through practical tests is necessary to ensure candidates possess the competencies outlined in their CVs.	Skills Assessment	Interview Transcripts
Visa Challenges in International Student Recruitment	The Impact of Changing Visa Policies	P1, P4, P5, P6	Frequent changes in visa policies create uncertainty and challenges for both international graduates and employers, complicating long-term planning.	Immigration Policies and Employment Practices	Interview Transcripts
	Sponsorship and the Cost of Hiring International Graduates	P1, P2, P3, P4	The financial burden and short duration of post-study work visas are significant barriers to sponsoring international graduates.	Recruitment and Financial Management	Interview Transcripts

	Lack of Awareness and Education on Visa Processes	P2, P3, P4, P5, P6	There is a need for better education on visa processes among recruiters and HR teams, with universities playing a key role in bridging this knowledge gap.	Organizational Awareness and HR Strategy	Interview Transcripts

Source: Field data

Some Notable Identified Barriers to International Student Recruitment:

Communication skills

Communication skills and barriers emerged as a significant theme, as many participants emphasized the influence of communication on the recruitment process and the day-to-day integration of international graduates into the workplace.

This theme is supported by participant quotes from Participants 1 and 2, who directly addressed communication as both a screening criterion and an ongoing integration challenge. It is further corroborated by the literature on intercultural communication in professional settings (Levitt, 2022; Fortanet-Gómez & Beltrán-Palanques, 2022). The most salient finding within this theme is that while communication competence is universally applied to all candidates regardless of origin, international graduates face a higher baseline adjustment burden due to cultural and linguistic differences, with practical implications for onboarding design and inclusive hiring practices.

Language proficiency and adaptation

A major concern raised by several participants was the impact of language proficiency on effective communication. Participant 1 noted that while their organization does not prioritize specific skills for international students, communication is a key focus. He explained, "We understand that international students are coming from different regions, and it will take them some time to fully adjust. We check their communication skills because it's crucial for them to understand the locals and communicate effectively". He added that while the organization may tolerate minor communication gaps, these gaps must be minimal before the candidate can progress to the next stage of recruitment.

Cultural and linguistic challenges

Cultural and linguistic differences also emerged as noteworthy barriers to communication. Participant 1 highlighted that local colleagues often use slang or idiomatic expressions, which may not be understood by international students. He remarked, “Sometimes the British locals use slang unconsciously, and they expect the international students to understand. This creates a temporary

communication gap and makes the international students feel like they're not part of the system." However, he noted that over time, international graduates typically adapt to the language and cultural nuances.

Participant 2 discussed how this communication challenges can disadvantage international students, particularly when compared to local graduates. She observed, "Local graduates often have an advantage because English is their native language, which helps in building rapport more easily. This is always important in roles like marketing, where communication is key." The participant added that most of the time, small and medium-sized enterprises (SMEs) in the Northeast of the UK prefer to hire locals due to these factors.

Visa challenges in international student recruitment

Visa-related issues represent a major challenge for both international students and the organizations that seek to hire them. This theme explores the complexities surrounding visa policies, the additional costs associated with hiring international graduates, and the need for greater awareness and education about visa processes within organizations.

This theme is substantiated by direct testimony from Participants 1, 2, 3, 4, and 6 and is reinforced by national-level literature on post-Brexit immigration policy (Sturge, 2022; Aktas et al., 2021; Tran et al., 2022). The most salient finding is that the two-year Graduate Route visa creates a structural misalignment with employer investment timelines, and that sponsorship costs disproportionately affect SMEs, a pattern particularly pronounced in the Northeast UK tech ecosystem where smaller firms predominate. This finding directly informs the policy recommendations in Section 5.2.

Visa Policies

Several participants highlighted the difficulties posed by the frequently changing visa regulations. Participant 1 expressed concern about the need to stay informed about government policies, stating, "These policies keep changing so fast that you need to keep up to date with the government policies in terms of the immigration status of international graduates." This rapid pace of change creates uncertainty for both international graduates and employers, complicating long-term planning and decision-making. Participant 4 echoed these concerns, particularly noting the challenges for smaller companies that may struggle to keep up with the evolving rules. He remarked, "It is difficult keeping up with the ever-changing visa rules, and most companies are also trying to cut costs at every opportunity." This underscores the complexities and financial burdens associated with visa management, which may discourage companies from hiring international graduates.

Sponsorship and the cost of hiring international graduates

Participant 3 revealed that the limited duration of post-study work visas can be a barrier for international students seeking employment in roles that require longer-term commitments. He

explained, “If somebody only has the right to work for a two-year period, organizations will invest a lot of time and effort into upskilling and providing training, only to get no benefit from it at the end.” This underscores a major concern where the visa duration does not align with the long-term needs of businesses, making it challenging to justify the investment in international graduates.

Lack of awareness and education on visa processes

Participants also discussed the lack of awareness and understanding of visa processes among many organizations. Participant 6 highlighted the need for an “education piece” within companies, noting that many recruiters and HR teams do not fully grasp the visa process. She commented, “I don’t think recruiters, in the average company, fully understand the visa process...It’s an education piece on the company’s side rather than a particular challenge that the graduates are posing.” This lack of understanding can result in missed opportunities for both employers and international graduates.

CV presentation and content in international student recruitment

The presentation and content of CVs emerged as a major theme in the recruitment of international students. Participants highlighted various issues related to how international graduates often present their qualifications, skills, location, and readiness to relocate, which can lead to disadvantages during the recruitment process.

This theme is directly supported by participant accounts from Participants 3, 4, 5, and 6, who collectively identified location omission, poor tailoring, and inadequate differentiation as recurring issues in international graduate applications. These findings align with existing literature on how application format norms differ internationally and disadvantage foreign applicants (Han et al., 2022). The most salient point across sub-themes is that CV localisation is a practical, correctable barrier, one that universities and career services are well-positioned to address through targeted pre-application coaching.

CV overview

Participants underscored the critical role that a well-prepared CV plays in the recruitment process. Participant 4 emphasized this by stating, "The CV is super important, so make sure it’s top-notch and fits what local companies want." This highlights the necessity for international students to tailor their CVs to meet local expectations, ensuring that their qualifications and experiences align closely with the requirements of the job they are applying for.

Similarly, Participant 5 elaborated on the importance of a standout CV, noting, "It doesn’t necessarily matter where they come from as long as their CVs or skill sets stand out." This suggests that despite the inherent challenges faced by international students, a well-crafted CV can serve as a significant advantage, potentially offsetting other disadvantages.

Location and relocation issues

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A recurring issue discussed by participants was the omission of location information on CVs. Participant 3 pointed out that many international students fail to include their current location or indicate their willingness to relocate. She explained, "If there's not a location on the CV, a lot of the time in the recruitment industry, they just won't be considered for the position." This omission can be particularly detrimental in a competitive job market, where recruiters often prioritize candidates who are either locally based or have clearly stated their intent to relocate.

Differentiation and content challenges

Participants also addressed the challenge of standing out in a competitive job market. Participant 5 emphasized the importance of including specific details, such as projects and unique experiences, on a CV to differentiate oneself from other candidates. She remarked, "You have to stand out from others by putting down projects or things that you've been involved in to show there's something different about you." This is particularly important for international students, who need to demonstrate how their unique backgrounds and experiences can add value to potential employers.

Proposed Remedial Solutions Improving International Students' Employability

Communication skill development

Participants also highlighted the importance of international students developing their communication skills. Participant 3 noted that while some international students possess strong communication skills, others need to focus on improving these skills to remain competitive. He suggested that students engage in activities such as public speaking to enhance their proficiency, stating, "There's a side of international students who have extremely strong communication skills, but it's important for all of them to actively work on these skills, as they are crucial for building rapport and succeeding in the workplace."

CV presentation and content in international student recruitment

The presentation and content of CVs emerged as a major theme in the recruitment of international students. Participants highlighted various ways by which the international graduates could present their qualifications, skills, location, and readiness to relocate, which can lead to their advantage during the recruitment process. Participants underscored the critical role that a well-prepared CV plays in the recruitment process. Participant 4 emphasized this by stating, "The CV is super important, so make sure it's top-notch and fits what local companies want." This highlights the necessity for international students to tailor their CVs to meet local expectations, ensuring that their qualifications and experiences align closely with the requirements of the job they are applying for.

Visa and work authorization guidance

Participant 6 highlighted the need for an "education piece" within companies, noting that many recruiters and HR teams do not fully grasp the visa process. She commented, "I don't think

recruiters, in the average company, fully understand the visa process...It's an education piece on the company's side rather than a particular challenge that the graduates are posing." This lack of understanding can result in missed opportunities for both employers and international graduates. Given the significance of visa and work authorization challenges highlighted by participants, universities should provide clear and up-to-date information on visa regulations and post-study work opportunities. This could be achieved through ongoing partnerships with employers, offering practical insights into the recruitment process and visa requirements, and ensuring that students are well-informed about their options.

Role of UK Universities in Supporting International Students' Entry into the Tech Industry

The findings of this study indicate that employability barriers faced by international graduates are not solely individual level deficits but are structurally reinforced by gaps between higher education provision, employer expectations, and immigration systems. Universities therefore occupy a central position in mitigating these barriers by acting as intermediaries between international students, employers, and policymakers.

Targeted career development and employability support

Universities can improve international graduates' transition into the UK tech workforce by delivering tailored career services that explicitly address sector specific recruitment practices and visa related constraints. Evidence shows that international students often engage less effectively with generic careers provision due to time limited programmes and unfamiliarity with UK recruitment norms (Universities UK International, 2023).

Consistent with the findings of this study, where employers emphasised CV quality and localisation, universities should provide structured CV and application workshops focused on UK tech sector expectations, including project-based evidence, location clarity, and demonstrable technical competencies. Targeted interventions of this nature improve alignment with employer screening criteria and increase short listing success (Han et al., 2022).

Work based learning and industry exposure

Employers in this study repeatedly cited the absence of UK based work experience as a key limitation when recruiting international graduates. Universities can address this gap by embedding short, assessed work-based learning opportunities into technical programmes. Even limited industry exposure has been shown to enhance graduate confidence, professional communication, and employer trust (Fakunle, 2020).

Short term placements, micro internships, and employer led project modules are particularly suitable for one-year postgraduate programmes, where extended placements are impractical. These initiatives enable SMEs to evaluate candidates with minimal financial risk while supporting the accumulation of social and cultural capital essential for labour market integration (Yu, 2020; Beard, 2021).

Visa literacy and employer facing guidance

A key contribution of this study is the identification of limited visa knowledge among recruiters as a barrier to international graduate employment. Universities can reduce this constraint by providing accurate, accessible guidance on post study work options to both students and employers. Clear communication around the Graduate Route and Skilled Worker visa pathways reduces uncertainty and perceived risk in international hiring decisions (Sturge, 2022).

This intervention is particularly relevant for SMEs, which often lack dedicated HR or legal expertise (Tran et al., 2022). Employer briefings, policy summaries, and facilitated dialogue with immigration specialists can therefore improve employer confidence and expand opportunities for international graduates (Bright Network, 2023).

Communication skills and workplace integration

Communication challenges emerged as a persistent employability barrier in both the empirical findings and the literature. While international students often demonstrate strong academic English, employers emphasised the importance of contextual communication, professional interaction, and interview performance.

Universities can address this gap by embedding communication development within technical curricula rather than treating it as an ancillary skill. Employer led mock interviews, team based problem solving activities, and workplace simulations improve recruitment readiness and cultural fluency (Solarino & Aguinis, 2021; Fortanet Gómez & Beltrán Palanques, 2022).

Employer aligned micro credentials and skills verification

Participants also highlighted difficulties in verifying technical competencies claimed on CVs. Universities can strengthen graduate signalling by introducing employer aligned micro credentials and assessed technical projects. When co designed with industry, micro credentials provide granular, credible evidence of job ready skills and improve employer confidence in graduate capability (Wang et al., 2025). Embedding these credentials within degree programmes ensures academic rigour while aligning graduate output with rapidly evolving technology sector requirements.

Conclusion and Recommendations

This study examined employer perspectives on the employability of international graduates within the Northeast UK tech sector. Three dominant barriers were identified: communication challenges, CV localisation issues, and visa related constraints. Addressing these barriers requires coordinated action across universities, employers, and policymakers. Supporting international graduates is not only an equity concern but a strategic necessity for sustaining innovation and skills growth within the UK technology sector.

The barriers identified in this regional study are broadly consistent with national-level findings on international graduate employability in the UK. Wang et al. (2025) conducted a systematic review of the employability of international postgraduate taught students and similarly identified communication, cultural capital deficits, and immigration complexity as the primary obstacles to labour market entry. Likewise, the Universities UK International et al. (2023) report on international graduate outcomes highlights that employers across the UK express reluctance to sponsor visas, particularly among smaller firms, corroborating the patterns observed in the Northeast sample. However, the regional dimension of this study adds granularity not captured at the national level: the disproportionate concentration of SMEs and early-stage tech startups in the Northeast amplifies the financial impact of sponsorship obligations and magnifies the structural disadvantage facing international graduates relative to larger urban tech centres such as London or Manchester. Future research comparing outcomes across UK regional tech ecosystems would further refine these insights.

A notable distinction emerging from this study concerns differential practices between SMEs and larger organisations with respect to sponsorship and integration. Participants representing larger or more internationally experienced firms described more systematic onboarding strategies, established diversity programmes, and greater familiarity with visa compliance processes. In contrast, participants affiliated with SMEs consistently reported cost constraints, limited HR expertise, and a preference for local candidates as mechanisms for avoiding sponsorship obligations. This divergence has important policy implications: generic interventions such as employer briefings on the Graduate Route may be insufficient for SMEs without accompanying financial incentives or administrative simplification. Tailored support structures, including subsidised visa application assistance or streamlined sponsorship pathways for small employers, warrant serious consideration by policymakers seeking to improve international graduate employment outcomes across firm sizes.

Following are the recommendations:

UK Universities shall:

- Develop dedicated international graduate employability streams within careers services, with sector-specific advisers and UK-standard application support (Universities UK International et al., 2023).
- Embed short, assessed work-based learning opportunities within tech programmes to provide verifiable UK industry exposure (Omolabake Fakunle, 2020).
- Actively educate employers—particularly SMEs—on visa pathways and post-study work options to reduce hiring reluctance (Sturge, 2022; Tran et al., 2022).
- Integrate communication skill development and interview simulation into technical curricula to address cultural and linguistic barriers identified by employers (Solarino & Aguinis, 2021).
- Co-design micro-credentials with industry partners to strengthen skills verification and

labour market signalling (Wang et al., 2025).

Employers, particularly in the tech industry, can benefit from adopting the flexible recruitment processes, embrace diversity and supportive onboarding programs for new intake with minimal experience; and

Policymakers could create a more supportive environment by enhancing visa policies to consider extending the duration of post-study work visas and simplifying the sponsorship process for SMEs. These changes would reduce the burden on employers and make it easier for international graduates to secure long-term employment.

The policy implications of this study are particularly pressing in two interconnected areas. First, regarding visa duration, the current two-year Graduate Route visa was repeatedly cited by participants as a structural barrier to employer investment. Participant 3's observation that organisations are reluctant to invest in upskilling staff who may only be authorised to work for two years reflects a broader mismatch between graduate mobility timelines and employer training return horizons. Extending the Graduate Route to three years, as has been considered in policy discussions, would more closely align post-study work rights with employer planning cycles and reduce the perceived risk of international hiring. Second, with respect to SME sponsorship support, the financial and administrative burden of the Skilled Worker visa sponsorship process is disproportionately borne by smaller firms. Many of the participating SMEs lacked dedicated immigration expertise and reported that sponsorship costs deterred them from pursuing otherwise suitable international candidates. Targeted policy interventions, such as subsidised sponsorship fee waivers for SMEs below a defined threshold, simplified compliance guidance, or regional enterprise partnerships that pool sponsorship resources, could meaningfully expand employment opportunities for international graduates in underserved regional tech ecosystems such as the Northeast of England.

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Impact of UK Beverage Industry Online Advertising on Consumer Perceptions: A Localized Strategic Approach

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Abstract

This study examines the impact exerted on consumer attitudes, behaviors and purchase intentions by online advertising strategies employed in the United Kingdom beverage sector. Focusing on High Wycombe, the study explores the effects of online advertising strategies on brand image, brand loyalty and consumer loyalty dynamics within the UK beverage industry. Implementation of the study involved a positive approach. Survey data obtained from respondents in High Wycombe were quantitatively analyzed using descriptive statistics, correlation, and regression analysis. Significant relationships exist between demographic factors (age, gender, education) and consumer perceptions of online beverage advertisements ($p < 0.05$). Younger consumers (18-34 years) show more favorable attitudes. Strong positive correlations link Brand Image (BI), Advertising Content (AC), Social Media Engagement (SME), and Customer Purchase Behavior (CPB), with $R^2 = 0.866$ and SME as the strongest predictor ($r = 0.912$); $p < \alpha$). The uncovering of both demographic and factor-based drivers of consumer perceptions in the UK beverage sector contributes to digital marketing literature and provides practical suggestions for localized strategies in competitive markets. Beverage brands need to refine their online advertising strategies by targeting specific demographics, enhancing creative content, and boosting social media engagement to optimize campaigns, allocate budgets effectively, and maintain competitiveness in the rapidly expanding digital market.

Keywords: *Online advertising, consumer perception, digital marketing, social media*

engagement, UK beverage industry

JEL Classification: J11, L66, M31, M37

Introduction

The beverage industry represents a central component of the UK economy, spanning diverse product categories including soft drinks, juices, bottled water, teas, coffees, functional beverages, and alcoholic drinks (Chinnici et al., 2025; Noble-Ramos et al., 2025). In 2023, the UK non-alcoholic beverage market exceeded £22 billion in value, with soft drinks maintaining the largest share despite the introduction of the Soft Drinks Industry Levy in 2018 (Ridder, 2025; Penny et al., 2023). This growth has been driven by shifting consumer preferences, rising urbanization, and an increasing focus on health and wellness (Cobiac et al., 2024). During the same period, the UK alcoholic beverages market reached an estimated value of £50 billion (Baker, 2024), underscoring the combined significance of both alcoholic and non-alcoholic segments in shaping national consumption patterns (Ridder, 2025; Wilson et al., 2025). Consumption remains widespread across demographic categories, with over 95% of UK adults regularly consuming non-alcoholic beverages. Notably, the 18–34 age group, highly active within digital environments, represents the highest-engagement segment (Mintel, 2023).

Advances in digital technology have profoundly reshaped marketing practices within the UK beverage sector over the past decade (Circana, 2025; Chinnici et al., 2025). The Covid-19 pandemic accelerated this transformation, compelling beverage brands to adopt online marketing as a primary means of maintaining consumer engagement amid physical restrictions (Chang, 2020). Contemporary beverage marketing strategies are now inherently digital, characterized by multimedia campaigns, social media activation, influencer collaborations, user-generated content, and interactive advertising formats (Gong, 2025; Corbyn, 2025). In addition, the rise of personalization and value-based marketing, particularly around sustainability and ethical sourcing, has reshaped consumer expectations and forced brands to revisit their strategic priorities (Wang, 2024).

Digital advertising has become an indispensable strategic investment. The UK food and drink sector allocated approximately £1.3 billion to digital advertising in 2023, yet empirical insights into the specific influence of online advertising on consumer attitudes and behaviors remain limited (Axelsson, 2023). This study contributes to addressing this knowledge gap by examining these dynamics within High Wycombe, a major town in Buckinghamshire located 47 km northwest of London (ChooseWhere, 2025). Buckinghamshire ranks as one of the highest-performing counties economically, while High Wycombe's demographic profile displays similarities to national gender and ethnic distributions but notable differences in age composition (City Population, 2023; Office for National Statistics, 2024; Statistics Times, 2025). In particular, the town has a disproportionately high share of residents aged 18–34, an age group strongly influenced by digital content, social media trends, and influencer-driven beverage consumption behaviors (Clark, 2025; Circana, 2025; Matos et al., 2023). These features render High Wycombe a relevant

and strategically significant setting for analyzing how demographic variables shape consumer responses to digital beverage advertising (Acar et al., 2021).

While digital marketing is now ubiquitous across the beverage industry, consumer responses vary considerably. Some consumers welcome targeted and personalized ads, perceiving them as convenient and relevant, while others experience advertising fatigue or actively resist branded digital content (Chang, 2020). Accordingly, this research investigates how online advertising strategies influence consumer perceptions, brand image, and purchase intentions among beverage consumers in High Wycombe. Given the rapid emergence of new digital trends, including influenced campaigns, interactive media formats, and algorithmic personalization, continuous evaluation is essential to ensure that marketing practices remain effective and responsive to evolving consumer expectations (Widodo & Ginting, 2024).

Ultimately, the study seeks to generate insights into consumer attitudes toward digital advertising within the UK beverage market, assess the perceived effectiveness of prominent online promotional strategies, and examine the relationships between brand image, consumer perceptions, and purchasing behavior. Understanding these dynamics is vital for enabling beverage companies to develop more effective, resource-efficient, and adaptive marketing strategies in an increasingly digitalized marketplace (Cho et al., 2023; Sima et al., 2025).

Literature Review

The UK beverage industry has undergone substantial shifts in consumer psychology and purchasing behavior, largely driven by the increasing prevalence and sophistication of online advertising strategies (Yesiloglu & Costello, 2024). As digital media continues to grow its share of overall marketing investment, brands are compelled to design highly creative, distinctive, and interactive online campaigns to capture consumer attention and enhance brand recognition in an increasingly saturated digital environment (Wang, 2024). Research suggests that message personalization plays a particularly influential role in shaping consumer perceptions of health-related product attributes, and its effectiveness is especially pronounced within demographically diverse contexts such as Buckinghamshire (Müller, 2025).

Personalized advertising, tailored to individual preferences, browsing behaviors, and consumption patterns, has been shown to significantly enhance marketing effectiveness within the UK beverage sector. Recent studies indicate that personalized digital advertisements not only strengthen message recall but also exert a stronger influence on purchase intention compared with generic, non-targeted advertising formats (Farhan et al., 2024). Emotional and narrative-driven digital campaigns further enhance consumer satisfaction and foster deeper emotional attachment to beverage brands (Chang, 2020). Survey data from UK consumers corroborates these findings, with over 80% reporting that digital advertising plays an important role in their beverage purchase decision-making processes (Pinca, 2023).

Consumer engagement also varies considerably depending on advertising format. Video-based content has been found to generate higher levels of interest, emotional engagement, and message

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retention than static or less interactive formats such as banner ads or traditional print media (Yesiloglu & Costello, 2024). The popularity of platforms such as TikTok, Instagram, and YouTube has further strengthened the appeal of video-centric content, with UK beverage consumers demonstrating heightened responsiveness to short-form and influencer-led video advertising (Ibrahim et al., 2024). However, channel selection alone does not guarantee advertising effectiveness. Excessive exposure, repetitive messaging, or algorithmic over-targeting can lead to advertising fatigue, diminishing consumer responsiveness, and fostering negative brand attitudes (Pu et al., 2023). Consequently, creative variation and continuous content innovation remain critical to preventing desensitization and maintaining consumer engagement (Sheader, 2024).

Mobile advertising has also become an indispensable component of beverage marketing strategies. High smartphone penetration across the UK has shifted much of consumers' digital interaction to mobile environments, making smartphones and tablets primary gateways for beverage advertising exposure (Farhan et al., 2024). Geographic targeting techniques, where consumers receive location-based advertisements aligned with nearby retail outlets, have been particularly successful, effectively linking digital ad exposure with in-store purchasing and enhancing the integration between online and offline retail experiences (Potvin Kent et al., 2024). Despite these developments, notable gaps remain within academic literature. Empirical studies explicitly examine how demographic variables such as age, gender, and income shape consumer responsiveness to online beverage advertising are limited (Matos et al., 2023). Although many studies identify 18–34-year-olds as the most receptive group to digital advertising, response patterns may differ considerably across beverage categories and consumer subgroups. Additionally, the role of digital literacy and technological competence in shaping advertising responsiveness has not been thoroughly explored, despite its potential importance in determining how consumers process and evaluate digital advertising content. This leads to the formulation of hypothesis 1:

> H1: *Age, as a demographic factor, significantly influences consumers' perceptions of online beverage advertisements. Consumers aged 18–34 are expected to hold more favorable perceptions of online beverage advertising than consumers aged 35 and above.*

Social media has fundamentally reshaped the UK beverage marketing landscape by enabling direct, real-time communication between brands and consumers and fostering the development of dynamic digital brand communities (Gu & Zhu, 2023). Interactive and visually engaging formats such as stories, reels, live streams, and consumer testimonials significantly enhance engagement metrics and content-sharing behaviors', thereby improving brand visibility and reputation within the beverage sector (Gursoy et al., 2023). Evidence from beverage campaigns indicates that social-media-driven strategies are highly effective in cultivating regionally focused digital communities, with influencer endorsements and active consumer participation emerging as major predictors of purchase intention (Finlay et al., 2022).

Influencer marketing has become one of the most influential strategies for beverage brands in the UK. Collaborations with social media influencers serve as powerful channels for disseminating brand messages, shaping consumption norms, contributing to the virality of beverage-related

content, and building trust among skeptical consumer groups (Cheah et al., 2024). Empirical findings consistently demonstrate that influencer-endorsed content achieves substantially higher engagement rates and stronger behavioral responses compared with content produced solely by brands (Gu & Zhu, 2023). User-generated content, including reviews, unboxing videos, and consumer-created imagery, further reinforces trust and plays a critical role in shaping overall product perceptions (Gu & Zhu, 2023). Branded hashtag campaigns, digital challenges, and crowdsourced content initiatives enable beverage companies to co-create their brand narratives with consumers, strengthening long-term online relationships (Ibrahim et al., 2024). Effective community management, such as timely comment responses, proactive handling of consumer concerns, and the strategic use of promotional messages, has been shown to significantly increase brand–consumer interaction and positive engagement outcomes (Amson et al., 2025). Survey evidence indicates that more than half of UK consumers exposed to a beverage brand's social media content report being likely to purchase the product, underscoring the persuasive power of digital brand engagement (Gursoy et al., 2023).

Despite considerable advancements, gaps remain in the literature regarding the mechanisms of social media persuasion, particularly across different demographic categories. There is limited empirical understanding of how age, income, or digital literacy influence consumer responsiveness to distinct social media advertising formats within the UK beverage market. Scholars have therefore recommended large-scale demographic analyses to identify variations in consumer reactions to different engagement strategies and platform-specific content types (Acar et al., 2021). This leads to the formulation of hypothesis 2:

> *H2: Consumers aged 18–34 exhibit significantly higher levels of responsiveness to beverage advertisements on social media compared with consumers aged 35 and above.*

Brand image, defined as the set of beliefs, associations, and impressions held by consumers regarding a beverage brand, remains a central determinant of customer loyalty and market performance (Mahrinasari & Roslina, 2024). In a mature and highly standardized industry such as the UK beverage sector, a differentiated and compelling brand image provides a critical competitive advantage (Widodo & Ginting, 2024). Research indicates that a strong brand image enhances consumer confidence, supports premium pricing, and reduces customer churn (Gupta et al., 2024).

Contemporary UK consumers increasingly prioritize brands that demonstrate ethical sourcing, environmental responsibility, and social commitment, making these values key components of brand image evaluation (Mintel, 2023). Furthermore, consumers display higher loyalty toward companies that adopt transparent practices, engage in sustainability initiatives, and demonstrate corporate social responsibility (Tikkha et al., 2024). Emotional connections also play an important role in loyalty formation; campaigns that leverage nostalgia, humor, or socially meaningful themes are particularly effective in fostering emotional attachment to beverage brands (Chang, 2020). Research by Gupta et al. (2024) suggests that a positive and consistent brand image can increase the likelihood of repeat purchasing by more than 20% when measured through consumer lifetime value metrics. Regional studies from Buckinghamshire indicate that ethical sourcing and

transparency regarding nutritional information are especially influential among health-conscious consumers (Clark et al., 2025).

Consistency across digital and in-store brand touchpoints remains essential for loyalty development. Modern consumers actively seek information, evaluate brand claims, and share feedback online; thus, consistency in messaging, product quality, and customer service is crucial at every interaction point (Mahrinasari & Roslina, 2024). Negative viral posts or unresolved complaints on social media can severely harm brand reputation, whereas positive user feedback and influencer endorsements can enhance trust and long-term loyalty (Mahrinasari & Roslina, 2024).

Despite extensive scholarship on brand image, loyalty, and advertising effects, several gaps remain. Few empirical studies have examined how specific advertising formats, particularly online video advertisements compared with static image formats, influence brand image perceptions within the UK beverage sector (Ramadhan et al., 2024). Similarly, the role of diverse consumer characteristics in shaping brand image responses to digital marketing strategies is underexplored, indicating the need for further statistical investigation (Ramadhan et al., 2024). This leads to the development of hypothesis 3:

> *H3: UK consumers who hold positive perceptions of online beverage advertisements are more likely to exhibit strong brand relationships when exposed to advertisements that are creatively innovative and visually compelling.*

Conceptual framework and theoretical model

The purpose of the research framework was to establish a relationship between the variables that could have an impact on the phenomenon investigated. The empirical research followed the conceptual framework which Figure 1 established by designating Brand Image and Advertising Content and Social Media Engagement as independent variables while Customer Purchase Behavior functioned as the dependent variable. Hypotheses H1 and H2 operationalized demographic influences (especially age) on perceptions and responsiveness to these advertising-related constructs, while H3 linked favorable responses to online advertising with stronger brand relationships and purchase intentions. The research used correlation and regression analyses to verify the model's paths which showed how three independent variables would affect Customer Purchase Behavior.

Table 1: Selected theories and models of online advertising in the beverage industry

Theory/Model	**Key Concepts**	**Reference**
Elaboration Likelihood Model	Advertising is processed in the mind of consumers through central active, analytical or through the peripheral passive, affective routes and this influences their effectiveness.	(Chang, 2020)

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Theory/Model	Key Concepts	Reference
Personalization Theory	Customizing online ads according to personal preferences/browsing histories boosts recall and the intent to purchase.	(Farhan et al., 2024)
Social Influence Model	It has been revealed that influencer/ UGC content influences consumer attitudes and purchase intentions due to peer effects of social media.	(Gu & Zhu, 2023)
Advertising Fatigue Theory	Being overexposed and repeated over and over, digital advertisements lose their efficiency and trigger the negative behavior on the part of consumers.	(Pu et al., 2023)
Brand Equity Theory	Good brand image and a positive image also build customer loyalty, with some consistency and emotional appeal.	(Gupta et al., 2024)

Source: author's illustration

Conceptual Framework Model

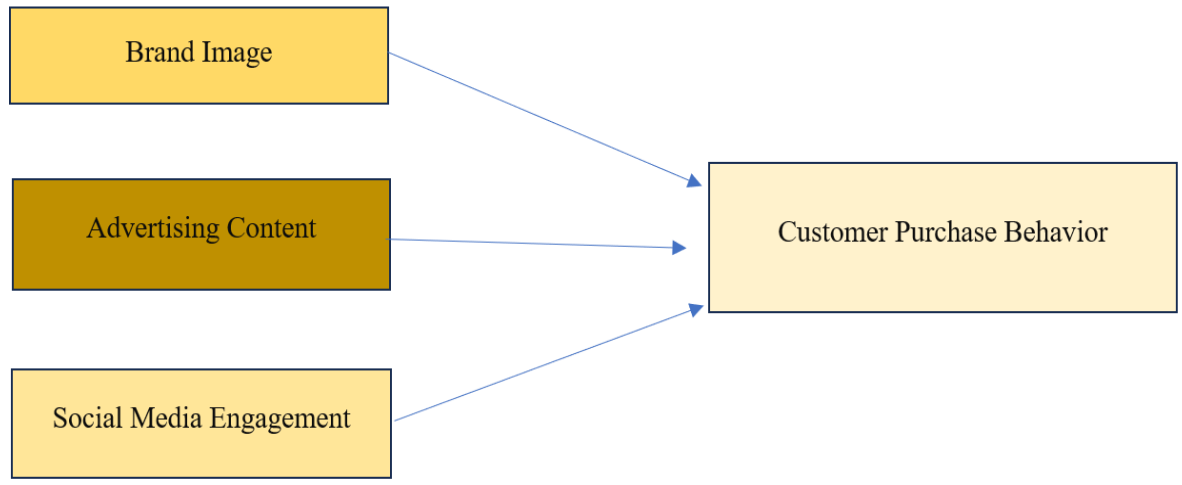

Figure 1: *Conceptual framework model*
Source: authors' illustration

Research Methodology

A survey questionnaire was used to collect data for this research, specifically designed to measure all the main factors of the proposed study model. The structured questionnaire employs closed-ended questions, predominantly utilizing Likert-scale items (1 = strongly disagree to 5 = strongly agree). This whole survey has been divided into four different areas: Brand Image (BI), Advertising Content (AC), Social Media Engagement (SME), and Customer Purchase Behavior (CPB).

Demographic characteristics like age, gender, and educational qualification are also included, which could help further understand the influence on consumer perception.

As justification for the selected study setting, High Wycombe's demographic profile displays similarities to UK national gender and ethnic distributions but notable differences in age composition (City Population, 2023; Office for National Statistics, 2024; Statistics Times, 2025). The town has a disproportionately high share of residents aged 18–34, an age group strongly influenced by digital content, social media trends, and influencer-driven beverage consumption behaviors (Clark, 2025; Circana, 2025; Matos et al., 2023). These features render High Wycombe a relevant and strategically significant setting for analyzing how demographic variables shape consumer responses to digital beverage advertising (Acar et al., 2021).

The research design aimed to attain generalizability, enabling the results to reflect broader consumer responses within the UK beverage industry, rather than focusing on a particular brand or context. This is because a premeditated online questionnaire is administered to individual participants only once, ensuring the safety of data collection and enabling its use to identify trends and associations within the sample (Doeim et al., 2022).

This study investigated the influence of online advertisements on consumer perceptions in the UK beverage industry. The target population consisted of people who live, work or study in High Wycombe, UK and are older than 18. The considerable consumption of beverage products among university students made this demographic a notable part of the sample. Respondents' records were kept anonymous in this study. The implemented sampling technique involved convenience sampling, an approach commonly utilized in both quantitative and qualitative studies (Golzar et al., 2022). The sample size was set at 150 respondents because of some limitations, notably time, financial limitations, and inability to get respondents to complete the survey. As a rule-of-thumb for sample size, Roscoe (1975) proposes that in the social sciences, sample size over 30 and below 500 is acceptable.106 responses were received, a response rate of 70.7%, which is considered very satisfactory.

Descriptive and inferential statistics, along with regression analysis, were applied in the survey data analysis to evaluate consumers' perceptions of online advertisement campaigns in the UK. Descriptive statistics such as mean, standard deviation, and frequencies served to project sample characteristics and key variables, providing an overall analysis of the perceptions of consumers about their attitudes toward online advertisement strategies (Matsuda & Kato, 2024). On the other hand, regression analysis provided insights into the relationships between dependent and independent variables (Customer Purchase Behavior and Brand Image, Advertising Content, and Social Media Engagement), thereby estimating the extent to which the various independent variables affect consumers' purchase decisions and thereby support the understanding regarding the effectiveness of different online advertising strategies. The analysis of data was performed using SPSS and R statistical software to enhance validity and efficiency.

Research ethical standards were maintained through three main practices, which included establishing voluntary study participation, obtaining informed consent, and protecting participant

identities during the research process. The research dedicated its focus to online beverage advertisements while ensuring data protection through its policy of not collecting any personal identification data or digital tracking information from study participants. The research acknowledges persistent ethical discussions about algorithm-based advertising and personalized advertisement targeting, which particularly affects young audiences, while it requires responsible targeting methods and transparent digital advertising practices.

Findings and analysis

Demographic sample characteristics

The demographic features provide a foundation of analysis through which the perceived aspects of age, gender, and education level most likely to influence consumer perception of online ads can be comprehended. Out of the 106 respondents, 58.5 per cent were females, and 41.5 per cent were males. The respondents also fall under various categories, such as 59.4% are aged 18-24, with 34.0% aged 25-34, since this age group would represent a very high number of consumers targeted by online advertising and social media campaigns. The lack of older demographic representation in the sample is only reflected in lower percentage shares of 35-44 (4.7%) and 45-54 (1.9). A large majority of the respondents are Bachelor's (52.8%) degree holders, and a significant number is also Master's (33.0). The education level of this sample is very high, so it may not judge advertising critically and express opinions. Even smaller numbers of respondents with high school education or less (9.4) and with a doctorate (0.9) provide other clues as to the general educational background of the sample. Other (3.8 percent) represents a heterogeneous group of education not included in the standard categories, likely to be vocational training or another specialized degree.

Table 2: Demographic data

Criteria	Categories	N	%
Gender	Male	44	41.5
	Female	62	58.5
Age	18-24	63	59.4
	25-34	36	34.0
	35-44	5	4.7
	45-54	2	1.9
Education Level	Doctorate	1	0.9
	Master's degree	35	33
	Bachelor's degree	56	52.8
	High school or below	10	9.4
	Other	4	3.8

Source: information based on primary data

Descriptive statistics

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Descriptive statistics were utilized to analyze the data, and the results showed the mean and standard deviation of the key variables. The Brand Image factor had the highest mean value of 18.82 (SD = 3.24), with a minimum of 5.00 and the maximum of 25.00 which altogether contribute to a good brand image. Advertising Content had a mean of 18.01 (SD = 3.98) variable with the same range of 5.00 to 25.00. Social Media Engagement had an average of 18.24 (SD = 3.62) within the range of 7.00 to 25.00. The Customer Purchase Behavior factor had a mean of 18.38 (SD = 3.88) with the same range as that of Brand Image ranging from 5.00 to 25.00.

Table 3: Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
BI	106	5.00	25.00	18.8208	3.24491	-1.909	.235	4.752	.465
AC	106	5.00	25.00	18.0094	3.98209	-1.777	.235	3.325	.465
SME	106	7.00	25.00	18.2358	3.61624	-1.543	.235	2.080	.465
CPB	106	5.00	25.00	18.3774	3.88269	-2.136	.235	4.434	.465
Valid N (listwise)	106								

Source: information based on primary data

Correlation analysis

The correlation analysis investigates relationship among the main constructs of the study: Brand Image (BI), Advertising Content (AC), Social Media Engagement (SME), and Customer Purchase Behavior (CPB). Here SPSS Version 22 was used to find out the co-relation among the variables. The correlation table shows strong positive correlations among the variables, all statistically significant at the 0.01 level (2-tailed).

Table 4: Correlation analysis

		BI	AC	SME	CPB
BI	Pearson Correlation	1	.827**	.818**	.813**
AC	Pearson Correlation	.827**	1	.874**	.883**
SME	Pearson Correlation	.818**	.874**	1	.912**
CPB	Pearson Correlation	.813**	.883**	.912**	1
**. Correlation is significant at the 0.01 level (2-tailed).					

Source: information based on primary data

Brand images have a correlation with AC (r = .827), SME (r = .818), and CPB (r = .813). Advertising content correlates with SME (r = .874) and CPB (r = .883), and SME correlates with CPB (r = .912). The three independent variables exhibit a significantly positive correlation, which can enhance purchasing behavior. The highest correlation holds among social media engagement with Customer purchase behavior. The result demonstrates that the significant relationship holding

variable is social media engagement with Customer purchase behavior.

Regression model summary

Table 5: Regression model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.930[a]	.866	.862	1.44411
a. Predictors: (Constant), SME, BI, AC				

Source: information based on primary data

The R-value of 0.930 signifies a robust correlation between the predictors Brand Image, Advertising Content, and Social Media Engagement and Customer Purchase Behavior. The R-squared value of 0.866 indicates that the model accounts for 86.6% of the variance in Customer Purchase Behavior. This Adjusted R-squared value of 0.862 gives us a less optimistic estimate as the number of predictors adjusts it. The Standard Error of the Estimate, whose value is 1.44411, shows how accurately the model can predict its values. The summary of the model indicates that it is a vigorous and trustworthy platform for predicting customer purchase behavior.

Analysis of variance

Table 6: Analysis of variance

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1370.190	3	456.730	219.008	.000[b]
	Residual	212.716	102	2.085		
	Total	1582.906	105			
a. Dependent Variable: CPB b. Predictors: (Constant), SME, BI, AC						

Source: information based on primary data

The ANOVA table proves the regression model with Brand Image, Advertising Content, and Social Media Engagement to be a much better regression in predicting Customer Purchase Behavior. Hence, a larger F-statistic (219.008) with a smaller p-value (less than .001) leads to excessive evidence that the model satisfactorily explains the data, rendering the observed relationships unlikely to be due to chance. The regression coefficients tell us that CPB predictors are Social Media Engagement whose Beta value is 0.912, followed by Advertising Content with a Beta of 0.883, and Brand Image whose Beta is 0.813. This implies that SME exerts the most significant effect on CPB.

Discussion

Demographic factors and online advertisement perceptions

The findings of this study highlight age as the most significant demographic factor influencing consumer perceptions of online beverage advertising. The sample was predominantly composed of younger adults, with 59.4% aged 18–24 and 34.0% aged 25–34, together representing 93.4% of respondents. This demographic profile directly aligns with the acceptance of hypothesis 1, which posited that younger consumers demonstrate more favorable perceptions of online beverage advertising. These results are consistent with existing scholarship suggesting that younger generations, accustomed to digital environments, perceive online advertising as an integrated and natural component of their digital ecosystems (Chang, 2020). The results supported Hypothesis 1 because younger consumers between 18 and 34 years old showed more positive attitudes toward online beverage advertising than older consumers. The results showed statistical significance at $p < 0.05$, which matched the age distribution of the sample.

Hypothesis 2, which predicted higher responsiveness to social media advertising among consumers aged 18–34 compared with those aged 35 and above, was similarly supported. Limited representation of older participants, combined with higher Advertising Content scores among younger respondents, strengthens this conclusion. The results of the study confirmed Hypothesis 2 because the 18 to 34 age group showed greater reactions to social media beverage advertisements than the 35 and older group, which reached a statistical significance level of $p < 0.05$. This finding corroborates previous literature emphasizing that digital socialization contributes to stronger receptivity to online beverage advertisements among younger cohorts (Matos et al., 2023).

Educational attainment patterns also revealed important implications. Most respondents held bachelor's degrees (52.8%) or master's degrees (33.0%). Higher educational attainment may facilitate deeper analytical engagement with advertising content and enhance the capacity to process and judge the credibility of digital messages (Doeim et al., 2022). Taking together, these results demonstrate that demographic characteristics, particularly age and education, play a formative role in shaping perceptions of digital advertising in the UK beverage sector.

Brand image, loyalty, and online advertising effects

The descriptive statistics for Brand Image ($M = 18.82$, $SD = 3.24$) and Customer Purchase Behavior ($M = 18.38$, $SD = 3.88$) indicate generally favorable attitudes toward both constructs.

Hypothesis 3, which proposed that positive attitudes toward online beverage advertisements correspond with higher brand loyalty when advertisements are visually and creatively appealing, was strongly supported (Matsuda & Kato, 2024). Hypothesis 3 was supported because positive consumer views of internet beverage ads created strong associations with brand-related outcomes, with high correlations between Advertising Content and Social Media Engagement, and between Brand Image and Customer Purchase Behavior (all $p < 0.01$). The overall regression model predicting Customer Purchase Behavior from Brand Image, Advertising Content, and Social Media Engagement was statistically significant because F reached 219.01, and p value remained below 0.001, which provided additional evidence supporting H3.

The results reinforce the foundational marketing principle that a strong brand image serves as a cornerstone for sustained customer loyalty and long-term engagement. This is particularly relevant within the competitive and mature UK beverage market, where brands increasingly rely on digital communication to differentiate themselves and foster consumer affinity (Allen, 2023). The findings are well aligned with the literature demonstrating that emotional responses evoked by online advertisements enhance satisfaction and deepen emotional bonds with brands (Chang, 2020).

Correlation analysis further strengthens these conclusions. All four variables, Brand Image (BI), Advertising Content (AC), Social Media Engagement (SME), and Customer Purchase Behavior (CPB), were positively correlated. The strongest association emerged between Advertising Content and Customer Purchase Behavior ($r = 0.883$), suggesting that the quality, relevance, and creativity of advertising significantly influence consumer decision-making. These results underscore the powerful role digital advertising plays in shaping purchase intentions, influencing not only online transactions but also visits to physical retailers (Matsuda & Kato, 2024).

Social media engagement as predictor of purchase behavior

Regression analysis revealed that Social Media Engagement (SME) was the strongest predictor of Customer Purchase Behavior ($\beta = 0.912$), followed by Advertising Content ($\beta = 0.883$) and Brand Image ($\beta = 0.813$). The correlation between SME and CPB ($r = 0.912$) represented the highest relationship strength observed, confirming that social media acts as a critical driver of behavioral outcomes in the UK beverage market (Matsuda & Kato, 2024).

These findings indicate that high levels of engagement, such as likes, shares, comments, influencer interactions, and participation in digital brand communities, significantly enhance consumers' likelihood of purchasing beverage products. This is consistent with industry trends demonstrating that interactive digital platforms foster greater brand involvement, trust, and purchase readiness. As a result, the evidence strongly suggests that beverage companies must prioritize professionally managed, strategically designed social media experiences to maximize consumer impact.

Conclusion and Recommendations

This study examined consumer perceptions of online beverage advertising strategies in the UK, with a specific focus on High Wycombe, to explore four key research objectives: (1) the role of demographic characteristics in shaping consumer perceptions of digital advertising; (2) the influence of online advertising on brand image and loyalty; (3) the effectiveness of different online advertising strategies; and (4) the impact of advertising content on consumer purchasing behavior. The findings highlight those demographic characteristics, particularly age, serve as the most significant determinants of online advertising perceptions. Younger consumers demonstrated notably higher exposure to and engagement with online beverage advertisements compared with older groups.

The results further demonstrate that brand image, advertising content, and social media engagement collectively shape consumer purchase decisions. The regression model explained 86.6% of the variance in purchase behavior ($R^2 = 0.866$), indicating a strong predictive capacity. Among the predictors, social media engagement emerged as the most influential factor ($r = 0.912$), followed by advertising content and brand image. These findings underscore the central role of social and interactive digital platforms in driving beverage purchasing behavior.

Practical implications

This study provides meaningful insights for practitioners in the UK beverage industry by emphasizing the importance of targeted digital advertising strategies and consumer engagement, especially among demographic groups less inclined toward brand loyalty. It also contributes to academic literature by advancing understanding of digital marketing effectiveness in a competitive and rapidly evolving sector.

The findings reinforce existing theoretical models that emphasize the role of digital advertising in shaping consumer perceptions, brand evaluations, and behavioral intentions. Evidence that online advertising influences both cognitive evaluations (e.g., perceived brand value) and affective outcomes (e.g., emotional attachment) contribute to contemporary discourse on the psychological mechanisms underpinning digital persuasion. The results also highlight the moderating role of demographic variables, particularly age, in digital marketing effectiveness, an area that warrants further conceptual exploration.

From a managerial perspective, the study emphasizes the strategic necessity of audience segmentation and age-specific content tailoring. Younger consumers demonstrated the strongest receptiveness to online and social media advertising. Therefore, brands should prioritize creative, emotionally resonant, and platform-appropriate digital content for this segment. Techniques such as storytelling, user-generated content, interactive features, and personalized messaging can deepen engagement and strengthen the consumer–brand relationship.

The findings in the UK require interpretation together with the existing advertising regulations which govern food and beverage advertising, and the Advertising Standards Authority (ASA) guidelines and the CAP/BCAP codes which cover digital marketing and age-targeted advertising. Beverage brands must ensure that data-driven and social media–based campaigns comply with these standards, particularly with respect to truthful claims, protection of younger audiences, and responsible promotion of high-sugar or alcoholic products.

The findings further suggest that online advertising must extend beyond awareness creation to cultivate emotional bonds and sustained loyalty. Beverage brands should design immersive digital experiences that reflect consumer values, such as sustainability, transparency, and ethical production, attributes increasingly important to UK consumers. Enhancing consistency across digital and in-store brand touchpoints also remains vital for maintaining credibility and trust.

Research limitations and future directions

Despite offering valuable insights, the study presents several methodological limitations. First, the sample size of 106 participants, constrained by time, financial considerations, and recruitment challenges, limits the external validity of the findings. A larger and more diverse sample would have strengthened the reliability and generalizability of the conclusions across the UK beverage consumer population.

Second, the use of convenience sampling introduces potential sampling bias, as participants were selected based on accessibility rather than randomized procedures. Consequently, the demographic and behavioral diversity of the broader consumer market may not be fully represented. The sample showed strong concentration as 93.4% of respondents belonged to the 18-34 age group. This limited the ability to reach valid conclusions regarding how older consumers reacted to online beverage advertising. This limitation of the results made it impossible to apply the findings to all age groups in the United Kingdom.

Third, the study did not account for external contextual factors that may influence consumer perceptions and behavior, such as economic conditions, cultural norms, or competing brands' marketing activities. These contextual variables may either amplify or attenuate the effects of digital advertising and should be integrated into future analyses for a more comprehensive understanding of consumer decision-making.

Finally, the cross-sectional nature of the study restricts the ability to infer causal relationships. Consumer perceptions and behaviors are dynamic and may evolve in response to technological, social, or market changes.

Future studies should aim to address the limitations identified by incorporating more rigorous methodological approaches. A larger sample size and the use of probabilistic sampling techniques would enhance the representativeness and generalizability of findings. Probability-based and stratified sampling methods will enable researchers to study all age groups and different geographical areas and socio-economic status groups within the United Kingdom. Researchers should conduct cross-regional and cross-national studies to test whether the relationships found in High Wycombe exist across different demographic and cultural settings. Longitudinal studies would show how consumer behavior changes over time as digital platforms and regulatory policies and market conditions evolve. The inclusion of qualitative methodologies, such as in-depth interviews, digital ethnography, or focus groups, could yield deeper insights into the motivations, emotional triggers, and contextual factors that shape consumer engagement with online beverage advertising. Qualitative data would complement quantitative findings by offering richer nuance and contextual understanding.

Future research could additionally compare the effectiveness of different digital advertising formats (e.g., video vs. static imagery, influencer-led vs. brand-generated content) to determine which modalities have the strongest impact on brand image and purchasing intentions. Investigating the roles of external factors, such as economic uncertainty, cultural preferences, and

technological advancements, would further enrich the understanding of digital marketing effectiveness within the beverage sector.

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The Examination of Contemporary Conditions for the Effective Integration of AI in Educational Process as Perceived by VET Teachers in Slovakia

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Abstract

This study explores the personal and institutional conditions influencing the integration of artificial intelligence (AI) in vocational education and training (VET) in Slovakia. Conducted within the Erasmus+ VETAssIst project (2024–2027), the research is based on 38 semi-structured interviews with Slovak VET teachers (AI users and non-pioneers) and a nationwide survey of 208 respondents. While data were also collected in Hungary, Serbia, and Germany, this paper focuses exclusively on the Slovak findings. The results reveal a generally positive yet cautious attitude toward AI. Although many teachers recognize AI's potential to support lesson planning, assessment, and administrative tasks, institutional readiness remains uneven. Limited access to structured training, insufficient technical infrastructure, lack of clear guidelines, and concerns about ethical implications and reliability of AI-generated content represent key barriers to wider integration. AI users demonstrate more systematic and critical engagement, whereas non-pioneers tend to emphasize risks such as plagiarism and reduced student autonomy. Across both groups, teachers consistently stress that AI should function as a supportive tool rather than a substitute for professional expertise. The findings suggest that AI integration in Slovak VET is currently driven more by individual initiative than by coordinated institutional strategy. Sustainable and responsible integration requires practice-oriented professional development, ethical and regulatory frameworks, and stronger institutional support mechanisms. The study contributes to the emerging discussion on AI in vocational education by providing empirically grounded insights from the Slovak context.

Keywords: *Artificial Intelligence (AI), Vocational Education and Training (VET), Erasmus+ VETAssIst Project, Teachers' Perceptions, Institutional Readiness*

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Introduction

Artificial intelligence (AI) is increasingly transforming educational systems worldwide, including in Slovakia, where it presents both significant opportunities and complex challenges (Pondelíková, 2025). As AI technologies become embedded in everyday life and professional practice, education systems are required to respond by strengthening digital, transversal, and 21st-century competencies (Gocen & Aydemir, 2020). These developments are particularly significant in vocational education and training (VET), which is positioned at the intersection of educational innovation and labour-market transformation.

AI is simultaneously reshaping occupational profiles and redefining workplace expectations, thereby requiring VET providers to update both the content and objectives of initial and continuing vocational training (Bükki et al., 2025). In this context, AI has a dual role; it constitutes a subject of learning within vocational curricula and functions as a pedagogical tool capable of enhancing teaching, learning, assessment, and administrative processes (Attwell et al., 2020). The effective implementation of AI in VET therefore depends not only on technological availability but also on the preparedness of teachers to critically evaluate, responsibly use, and pedagogically integrate AI-based tools.

To address these challenges, four higher-education institutions – the Budapest University of Technology and Economics, the University of Bremen, the University of Novi Sad, and the University of Ss. Cyril and Methodius in Trnava – jointly developed the Erasmus+ project VETAssIst – Artificial Intelligence as a VET Teacher Assistant (2024-1-HU01-KA220-VET-000253387). The project investigates how AI can support VET teachers in core professional activities such as lesson planning, content development, assessment, administration, and the implementation of innovative and inclusive teaching practices. A key project output is a comprehensive e-learning course providing practical guidance on AI integration, accompanied by critical reflection on pedagogical, ethical, and organisational implications.

While AI offers considerable potential to increase efficiency, personalise learning, support inclusion, and stimulate innovation, its meaningful integration into VET is shaped primarily by human and institutional factors. Teachers' attitudes, digital and AI-related competencies, professional identities, and everyday experiences interact with organisational conditions such as infrastructure, access to training, school-level policies, leadership support, and ethical or regulatory frameworks. Consequently, understanding teachers' perceptions and working contexts is essential for identifying both enabling conditions and barriers to the responsible use of AI in education.

Within this framework, the VETAssIst project places teachers at the centre of analysis and explicitly conceptualises AI as a supportive pedagogical assistant rather than a replacement for the teacher. The project emphasises the use of AI for routine and creative professional tasks, including lesson planning, material creation, formative and summative assessment, administrative work,

student engagement, and differentiated and inclusive instruction.

One of the core research activities of the project focuses on the systematic exploration of the personal and institutional conditions that influence how VET teachers perceive, adopt, and use AI in their professional practice. The study seeks to obtain an in-depth understanding of teachers' motivations and concerns, perceived benefits and risks, levels of digital competence, prior experience with AI tools, and expectations for future development. Particular attention is given to organisational dimensions, including access to technological infrastructure, availability of professional development, the presence or absence of institutional strategies, and the broader ethical and policy environment.

To achieve these objectives, semi-structured interviews were conducted with VET teachers across four partner countries – Hungary, Serbia, Slovakia, and Germany – representing diverse vocational sectors, school types, regional contexts, and levels of AI experience. The sample included both active AI users and teachers with limited or no prior engagement, enabling a comparative perspective across different stages of integration. This qualitative approach allowed for the exploration of nuanced aspects of teachers' everyday practice, professional agency, ethical considerations, and perceptions of institutional readiness that cannot be fully captured through survey methods alone.

Although the broader project is transnational, the presented paper focuses specifically on the Slovak sample while formulating conclusions and recommendations that are relevant across the participating countries. The findings provide an empirical foundation for subsequent project activities, including the pilot testing and evaluation of AI tools in VET courses and the development of practical guidance materials, particularly the VETAssIst e-book. Overall, this study contributes to a deeper understanding of the conditions under which AI can be integrated into VET in a pedagogically sound, ethically responsible, and institutionally sustainable manner, with a particular emphasis on the central role of teachers in this process.

Theoretical Background and Literature Review

Artificial intelligence (AI) has attracted growing scholarly attention in educational research, yet its practical integration into teaching and learning remains uneven. Although AI-driven virtual assistants and intelligent support systems are increasingly discussed as transformative tools, their integration in everyday educational practice is still developing. Bates et al. (2020) characterise AI as a "sleeping giant" in education, while Buckingham Shum and McKay (2018) similarly argue that its implementation lags behind its widely proclaimed potential. This gap is frequently attributed to systemic barriers, including insufficient institutional frameworks, limited technological infrastructure, and a shortage of adequately trained personnel (Ifenthaler, 2017). Nevertheless, continuous technological progress and sustained investment in educational innovation suggest that the disparity between AI's potential and its practical use may gradually diminish. In this context, Sampson, Isaías, and Ifenthaler (2025) provide a comprehensive synthesis of teaching and learning with and beyond generative AI, emphasising its pedagogical affordances alongside its ethical and organisational challenges. They conceptualise AI as a human-

centred learning companion that supports inquiry, creativity, and critical thinking rather than replacing teachers. At the same time, they identify key risks, including overreliance on AI systems, the need to redesign assessment practices, and the growing importance of AI literacy for both teachers and learners.

The majority of empirical research on AI in education is concentrated in STEM fields, particularly mathematics, engineering, and computer science (Mohamed et al., 2022; Kandlhofer et al., 2016; Núñez-Lantada, 2020; Mosly, 2024; Firda et al., 2024; Bravo et al., 2024). Within these domains, AI is primarily examined as a tool for enhancing analytical reasoning, automating complex computations, and enabling personalised learning pathways (Zhai et al., 2023; Kim & Kim, 2022). By contrast, research in the humanities remains less extensive, although emerging studies demonstrate AI's potential to support language learning, textual analysis, and critical interpretation. Pokrivčáková (2019) highlights the transformative role of AI in language education, while Pondelíková (2025) documents both the benefits and challenges of AI integration in British and American Studies at Slovak universities. Her findings indicate that students readily adopt AI for learning and research purposes, whereas many educators express concerns regarding academic integrity, plagiarism, and the absence of clear institutional guidelines. The study also reveals a significant gap in AI literacy between students and teachers, underscoring the need for structured professional development to ensure responsible and effective use. Further research by Pondelíková and Luprichová (2024) demonstrates that AI tools such as ChatGPT, Perplexity, and Gemini can enhance reading comprehension, critical thinking, and gender awareness in courses on Anglophone history and literature by providing personalised explanations and enabling diverse forms of textual analysis. These findings suggest that AI can support higher-order cognitive skills in humanities education when implemented within appropriate pedagogical frameworks.

Despite increasing interest in AI across educational sectors, empirical research on its application in vocational education and training (VET) remains limited (Chiu, 2023; Deitmer et al., 2024; Seufert, 2024). Existing studies, however, point to both significant opportunities and persistent challenges. Çela et al. (2024) demonstrate that technologies such as virtual reality, machine learning, intelligent tutoring systems, the IoT, robotics, gamification, and big data analytics can personalise learning, strengthen skills development, and better prepare learners for AI-driven labour markets. At the same time, they identify risks related to algorithmic bias, data privacy, high implementation costs, and unequal access to technological resources. Similarly, Leong (2025) emphasises the potential of adaptive learning systems, virtual simulations, robotics, and AI-supported tutoring platforms to align VET provision with evolving industry requirements. However, the study highlights structural barriers, including the digital divide, insufficient instructor preparedness, and data-protection concerns. These findings indicate that effective AI integration in VET requires not only technological infrastructure but also targeted teacher training and institutional support. Within this research landscape, Luprichová's (2025) work conducted in the framework of the Erasmus+ VETAssIst project examines AI as a digital assistant for VET teachers. Her evaluation of 37 AI tools, including content-generation systems (e.g., ChatGPT, Claude, Grok AI), formative-assessment tools (e.g., Formative AI, Eduaide, Socrat), and multimedia creation platforms (e.g., Adobe Firefly, Microsoft Copilot, SlidesAI, Quick, Draw!), assesses their pedagogical effectiveness, accessibility, ethical implications, and practical

limitations. The findings indicate that while AI tools can streamline lesson planning, assessment, and content development, their meaningful use depends on teacher competence, clear methodological guidance, and consideration of ethical and organisational constraints.

A recurring theme in the literature is the potential of AI to reduce teachers' workload by automating administrative tasks, supporting lesson preparation, and facilitating research activities. Katonane Gyonyoru (2024) stresses that AI integration must be balanced with human-centred pedagogical approaches that address the emotional, social, and holistic dimensions of learning. She envisions hybrid educational environments in which AI-powered virtual tutors, gamified learning systems, and intelligent content-creation tools complement rather than replace traditional teaching practices, thereby fostering inclusive and personalised learning. This perspective aligns with Bükki et al. (2025), who argue that VET providers must adapt both the content and objectives of initial and continuing training in response to AI-driven transformations in the labour market. Collectively, these studies emphasise that the successful integration of AI in VET is contingent upon organisational culture, teacher readiness, sustained professional development, and pedagogically grounded implementation strategies rather than technological availability alone.

Research Methodology

This study employs a qualitative approach to examine VET teachers' experiences, perceptions, and practices related to the use of artificial intelligence in education. Although the broader research was conducted across four countries – Hungary, Serbia, Slovakia, and Germany – the presented paper focuses primarily on the Slovak dataset. The qualitative component consisted of semi-structured interviews carried out in spring 2025, conducted either online or face-to-face. The interviews followed a jointly developed guide prepared by the project partners, informed by a prior literature review and adapted from the framework used in the AI Pioneers Erasmus+ project (Deitmer et al., 2024). The interview protocol explored current uses of AI tools, teachers' motivations for integration, perceived benefits, risks and challenges, and the nature of institutional support.

A purposive and convenience sampling strategy was applied to ensure the inclusion of teachers with diverse subject specialisations and varying levels of experience with AI. Participants were recruited through professional networks, online searches, and a snowball sampling approach. Within the sample, two groups were distinguished: AI users, defined as teachers who regularly use and experiment with generative AI tools in their teaching practice, and non-pioneers, defined as those who have never used AI tools or have only experimented with them minimally. This distinction enabled a comparative analysis of different stages of AI integration in Slovak VET.

All interviews were recorded and transcribed by the national research teams. The Slovak and team conducted thematic analysis manually, combining deductive coding based on the interview structure with inductive coding emerging from the data. This approach allowed for the identification of recurring patterns, unique use cases, and the personal and organisational factors that facilitate or hinder AI integration in VET. AI functioned as a supportive analytical tool rather than a substitute for human interpretation.

The Slovak qualitative sample consisted of 38 VET teachers, of whom 20 were classified as AI users and 18 as non-pioneers. Among the AI users, fourteen taught vocational or technical subjects and six taught humanities subjects. Within the non-pioneer group, twelve taught vocational or technical subjects and six taught humanities subjects. From a geographical perspective, the sample covered the main regions of Slovakia, with stronger representation from the eastern and western parts of the country and moderate representation from central Slovakia. Among AI users, eight teachers were from eastern Slovakia, three from central Slovakia, and nine from western Slovakia. The non-pioneer group included thirteen teachers from eastern Slovakia and five from western Slovakia. This regional distribution enabled the exploration of potential differences in access to infrastructure, institutional support, and AI integration across the country. Although the purposive and convenience sampling strategy enabled the inclusion of teachers with diverse subject specializations and varying levels of AI experience, this approach also represents a methodological limitation. Participants were primarily recruited through professional or private networks and voluntary participation, which may have resulted in a sample that is more interested in digital innovation than the broader population of VET teachers. In addition, the demographic composition of the sample reflects the structure of the Slovak VET teaching workforce but does not ensure proportional representation across all regions, school types, or vocational sectors. Therefore, the findings should be interpreted as context-sensitive insights rather than statistically generalizable conclusions. Nevertheless, the diversity of participants in terms of AI experience, subjects taught, and regional distribution provides a valuable exploratory overview of current conditions for AI integration in Slovak VET.

The in-depth interviews were divided into three thematic areas. For the non-pioneers, we focused on their experience with AI, while for the AI users we examined the integration, implementation, and challenges of AI in VET. The second area for non-pioneers aimed to identify which other technologies VET teachers implement in their teaching, whereas for AI users we focused on their experience, practical application, and the impact of AI in VET. The third area explored the expectations of non-pioneers and the future perspectives of AI users regarding AI in VET. Based on these three areas, we formulated three research questions.

- Research question 1 (RQ1): *What experience with AI do non-pioneer teachers in vocational education and training (VET) have, and how do AI users describe the integration, implementation, and challenges of AI in VET?*
- Research question 2 (RQ2): *Which non-AI technologies are implemented by non-pioneer VET teachers, and how do AI users describe their experience, practical application, and the impact of AI in VET?*
- Research question 3 (RQ3): *What are the expectations of non-pioneers and the future perspectives of AI users regarding the use of AI in VET?*

In addition to the qualitative interviews, a national survey was conducted in Slovakia to complement and triangulate the findings. Data were collected using a Google Forms questionnaire distributed to VET teachers via email, and a total of 208 Slovak respondents participated. Within

the broader project context, the survey also included 750 respondents in Hungary and 118 in Serbia, while no national survey was conducted in Germany. In the whole project, the combination of in-depth interviews and survey data enabled methodological triangulation and offered a comprehensive picture of AI use in VET. However, the presented paper focuses exclusively on the qualitative analysis of the in-depth interviews, which allows for a more nuanced exploration of teachers' experiences, attitudes, competencies, and the institutional and contextual conditions shaping the integration of AI into educational practice.

Ethical considerations were carefully addressed throughout the research process. Participation in the interviews and the survey was voluntary, and respondents provided informed consent prior to participation. All data were anonymised and processed in accordance with data protection principles to ensure participants' privacy and confidentiality. The research focused exclusively on teachers' professional experiences and perceptions, and no personally identifiable information was collected. Particular attention was also paid to the responsible use of AI tools during data analysis, ensuring that AI served only as a supportive analytical instrument rather than a substitute for human interpretation. The Ethics Committee of the University of St. Cyril and Methodius in Trnava approved the implementation of the research within the project *VETAssIst – Artificial Intelligence as VET Teacher Assistant* (No. 2024-1-HU01-KA220-VET-000253387), including the question set used for the in-depth interviews.

Findings and Discussions

Based on in-depth interviews, differences were identified between teachers with no practical experience with AI (non-pioneers) and those who actively use AI in their professional practice (AI users). The findings are structured according to three research questions addressing (1) experience with AI and conditions for its implementation, (2) the use of digital technologies and the practical impact of AI on teaching, and (3) expectations and future perspectives of AI integration in VET. The analysis considers not only the level of technology integration but also institutional conditions, teachers' professional development needs, ethical issues, and the perceived pedagogical benefits and risks associated with AI.

Experience with AI and conditions for its implementation (RQ1)

The findings reveal substantial differences between non-pioneer VET teachers and AI users in terms of experience, institutional support, and practical engagement with artificial intelligence. Among non-pioneers, direct experience with AI remains limited. Only 33% of respondents (6 out of 18) reported having personally participated in AI-related training, while 67% had no such experience. Although approximately one third of respondents indicated that their school had provided some form of AI training, actual participation was low. At the same time, interest in professional development in this area is very high with 83% of respondents (15 out of 18) stated that they would definitely welcome AI training, as illustrated by the statement, "I would definitely appreciate the opportunity to receive such training" (R37). This indicates a strong demand for structured support and capacity building.

From an infrastructural perspective, only half of the respondents considered their school's technical equipment to be sufficient for implementing AI in teaching. Most schools operate with basic digital infrastructure (Imran et al., 2025; Yamoah & Haque, 2022), such as computers, internet access, and standard software, without access to specialised AI tools. This lack of technological readiness represents a significant barrier to integration. As one participant noted, "We have basic equipment like computers and internet, but no specialized AI technologies yet" (R37). Institutional provision of AI software is also limited as only 39% of schools have purchased AI applications, and many respondents were uncertain about licensing conditions. In several cases, AI is available only indirectly as part of existing software packages rather than as dedicated tools as illustrated by respondent R22: "Not specifically, only as part of the Office 365." Taken together, non-pioneers demonstrate low practical engagement with AI, limited institutional support, and insufficient infrastructure, despite their strong motivation to learn and adopt AI in the future.

In contrast, AI users report active and evolving engagement with artificial intelligence, most commonly over a period of one to three years, as confirmed by 15 respondents. Their relationship with AI has developed from initial caution to more targeted, critical, and systematic use. One participant described this progression by stating, "At the beginning I was reserved; today I am an active user" (R7), while another emphasised the development of control and integration with professional practice: "Gradually, I learned to control AI more and to combine it with my own professional work" (R17). Integration is driven by a combination of professional curiosity (16 respondents), the need to save time (13), and efforts to innovate teaching (13). Many respondents perceive AI as a natural working tool and emphasise the importance of keeping pace with technological developments, for example, "I was motivated by my own curiosity and the conviction that it is necessary to keep up with the times" (R6). AI is also valued for its efficiency, as reflected in the comment by R19: "AI significantly saves me time when preparing materials."
AI users acquire their knowledge through a mix of formal and informal learning pathways, including training sessions, webinars, online resources, and exchanges with colleagues, students, and family members. In terms of practical use, most respondents employ AI both outside the classroom and directly in teaching, with different purposes in each context. Outside the classroom, AI is primarily used for preparing teaching materials, tests, and lesson plans, while in the classroom it is used for demonstrations, visualisations, and supporting student tasks. Students are the most frequent partners in AI-related activities, whereas collaboration with colleagues or external stakeholders occurs less often. Several respondents reported using AI individually rather than within a coordinated institutional framework, reflecting uneven integration within teaching teams and differing attitudes among staff, as captured in the observation, "Some colleagues are enthusiasts, others have considerable respect for AI" (R13).

The use of AI tools is characterised by a strong reliance on free versions, with only six respondents paying for AI services (Haque et al., 2025). Financial costs are perceived as a major barrier to broader and more systematic use, as illustrated by the statement, "AI services are very expensive; it is not possible to use everything to the desired extent" (R6). In terms of infrastructure, AI users primarily rely on basic digital equipment such as laptops, internet access, and cloud tools, and only rarely identify a need for advanced hardware. The most frequently reported benefits of AI include time savings, faster preparation of materials, and increased creativity and diversity of outputs; one

respondent quantified their use by noting, “Recently, I have created approximately 15 tests and 20 lesson plans” (R9).

Despite these advantages, AI users also identify several challenges. The most common relate to financial constraints (7 respondents), lack of information and training (8), security concerns, variability in the quality of AI outputs, and the need for human oversight and critical evaluation (9). Respondents emphasise that AI should not be used uncritically and that professional judgement remains essential, as expressed in the statement, “AI helps significantly, but it cannot be adopted without control” (R1). The findings for RQ1 highlight a clear divide between non-pioneers and AI users. While non-pioneers exhibit minimal practical experience but strong interest in training and future integration, AI users demonstrate active, reflective, and increasingly systematic use of AI, accompanied by concerns about costs, information gaps, and the necessity of critical oversight.

The use of digital technologies and the practical impact of AI on teaching (RQ2)

The research results further indicate that non-pioneer VET teachers predominantly rely on basic digital technologies, which they use mainly as supportive tools for teaching and preparation rather than as instruments for pedagogical transformation. The most frequently used technologies include the internet, presentation software, projectors, and interactive whiteboards, reported by fourteen respondents. Eleven respondents also use digital applications and learning platforms (Haque, 2022), such as Kahoot, Microsoft Teams, EduPage, Canva, or Moodle, while the remaining participants reported not using these tools at all. This shows a heterogeneous level of digital integration across schools and teachers. The use of these technologies is strongly shaped by structural constraints. Ten respondents pointed to insufficient technical equipment and weak internet connectivity as major barriers, six mentioned a lack of time, teaching materials, or training, and three referred to financial limitations. These obstacles are reflected in statements such as “The problem is mainly insufficient technical equipment and poor internet connection” (R37) and “Non-functioning Wi-Fi, old laptops, unsuitable classrooms, absence of software” (R38).

Concerns related to the introduction of digital technologies are primarily associated with teachers’ own digital competences and the risk of technical failure, mentioned by eight respondents. Additional concerns relate to the potential negative impact on students, including passivity, misuse of technology, and data privacy issues, reported by five respondents, while an equal number indicated that they had no concerns. These attitudes range from cautious self-doubt –“I was worried about whether I would be able to use the technologies effectively” (R37) and “That I wouldn’t know how to operate them” (R30) – to more resistant positions such as “I often reject new things” (R36). Despite these reservations, technologies are generally perceived as beneficial, particularly for preparing teaching materials, testing, and assessment (9 respondents), increasing student motivation and interactivity (7), and developing practical skills (6). Importantly, attitudes toward the future implementation of AI are predominantly positive even among non-pioneers as fifteen respondents expressed clear support, three viewed AI as a useful supplementary tool under certain conditions, and no negative attitudes were reported. AI is thus primarily conceptualised as a supportive rather than a transformative tool, as reflected in the statement “It’s a good thing, you just have to know how to use it correctly” (R26).

AI users, by contrast, describe a more complex and practice-oriented engagement with AI, although its integration into classroom teaching remains uneven. AI is used primarily as a support tool for lesson preparation, the creation of teaching materials (16 respondents), and administrative tasks (13), while systematic in-class pedagogical use is reported less frequently (8). Typical applications include lesson planning, test creation, rapid feedback processing, language correction and translation, image generation and editing, and automated evaluation of attendance and grades. Respondents emphasise that the most significant impact of AI is increased efficiency and time savings, reported by fourteen participants. Deeper pedagogical changes, such as a shift toward project-based learning, problem-solving activities, and greater student autonomy, were mentioned by a smaller group (7). One respondent noted that AI enabled a stronger focus on project work and more flexible assessment, allowing quicker identification of students' learning needs and increased student activity.

AI users employ a wide range of tools, with generative language models and AI functionalities integrated into existing school platforms predominating. The most frequently mentioned tools include ChatGPT and Gemini, Microsoft Copilot, Canva, Perplexity, and interactive tools such as Mentimeter, Padlet, and Quizizz. Despite this diversity, the use of AI is still largely oriented toward efficiency and support rather than systematic curricular integration. Teachers' attitudes toward students' use of AI are ambivalent but generally conditionally positive or pragmatically neutral. Eleven respondents accept student use of AI within clearly defined rules, while six express concerns about the potential loss of independent thinking. Several teachers have introduced guidelines that allow AI as a supportive tool but prohibit its use as a substitute for students' own work, reflecting an effort to balance innovation with academic integrity and cognitive development. As one respondent explained, "I introduced a rule that students may use AI to support creation, but not for complete assignments without their own contribution. I want them to learn that AI is a helper, not a substitute for their own thinking" (R17). Another emphasized the importance of structured boundaries, noting, "I have set principles for AI use, but they are still crystallizing… I like progress and innovation within clear boundaries" (R4).

Ethical and pedagogical risks are a central theme in the responses. The most frequently mentioned concern is uncritical copying of AI-generated content and cheating (11 respondents), followed by the potential loss of critical thinking and independence (9), and issues related to copyright and personal data protection (5), as reflected in the statement, "The biggest problem is uncritical copying of content" (R17). These risks reinforce the perceived need for a critical and guided use of AI. Respondents therefore emphasise the necessity of a systemic and methodological approach to AI integration in VET schools. The most proposed measures include training for both teachers and students (14 respondents), the development of clear rules and methodological guidelines (10), technical and financial support from the state (7), and the incorporation of AI into national curricula and textbooks (4). In terms of professional development, AI has contributed to improved lesson planning (12 respondents), the development of prompting skills (8), and more critical verification of information. Teachers report that AI enables them to prepare lessons more quickly, creatively, and engagingly, while also generating new ideas and activities, as one respondent noted: "It has definitely helped me prepare lessons better, more engagingly, and more quickly. It also

comes up with good ideas and activities" (R19).

In sum, the findings for RQ2 indicate that non-pioneers use digital technologies mainly at a basic, supportive level and face significant infrastructural and competence-related barriers, although they express generally positive attitudes toward future AI integration. AI users demonstrate more advanced, though still predominantly preparatory and efficiency-oriented, use of AI, with emerging but not yet widespread pedagogical transformation. At the same time, they articulate clear ethical concerns and a strong demand for systemic support, methodological guidance, and institutional integration of AI within VET education.

Expectations and future perspectives of AI integration in VET (RQ3)

The expectations of non-pioneer teachers toward the use of artificial intelligence in vocational education and training are predominantly positive, although accompanied by caution and a strong emphasis on maintaining the central role of the teacher. Fifteen respondents expressed clear support for the implementation of AI in VET, while three perceived it more cautiously and no negative attitudes were reported. AI is generally understood as a supportive tool rather than a primary means of instruction, as reflected in the statements "AI is a tool that complements the teacher's work" (R23) and "as support yes, as the main working tool no" (R31). Most respondents (12 out of 18) were able to articulate both potential benefits and risks. The perceived advantages include the creation of teaching materials, opportunities for personalised learning, and more experiential forms of instruction, whereas the main concerns relate to plagiarism and the weakening of students' initiative and critical thinking. This ambivalent perspective is captured in the observation, "Positive: creation of materials and personalized learning; negative: plagiarism and loss of students' initiative" (R23), and similarly, "positive is certainly experiential learning for students; negative could be an impact on critical thinking" (R24).

A majority of non-pioneers believe that AI could at least partially reduce teachers' administrative workload, particularly in areas such as test evaluation and report writing, as noted by one participant: "AI can help with test evaluation or report writing" (R37). At the same time, concerns about student passivity, overreliance on technology, and the potential loss of control over the learning process are prominent, mentioned by eleven respondents. These fears are illustrated by statements such as "I am afraid of losing control over the learning process and excessive dependence on technology" (R37) and "students will become lazy in their thinking, passive in searching for information, and will rely on AI without verification, which may lead to incorrect conclusions" (R31). Respondents therefore stress the importance of developing students' critical thinking and maintaining active teacher guidance.

Non-pioneers express a strong demand for practically oriented training focused on hands-on work with AI tools. Fourteen respondents specifically requested training in generating teaching materials, tests, texts, and images, while six called for more comprehensive, long-term educational formats supported by experts. This need is summarised in the statement, "We need practical training where we can work with AI ourselves" (R31). In terms of required competences, respondents highlight digital and technical skills as essential (mentioned by 13 rspondents),

complemented by critical thinking and the ability to evaluate AI outputs (7). Ethical considerations are also present, with nine respondents emphasising the need for clearly defined rules and systematic ethics education, although an equal number expressed uncertainty about how to address these issues. As one respondent noted, “Ethics should be part of education, and the school should have clear rules” (R23). Across responses, there is a strong consensus that the teacher should remain the key figure in the educational process, with AI serving only a supportive role, as succinctly expressed in the statement, “The teacher should be the main one, AI only a helper” (R31).

On the other hand, AI users articulate more future-oriented and transformative perspectives on the role of AI in VET, while similarly rejecting the notion of teacher replacement. They perceive AI primarily as a tool for modernising teaching, with the potential to increase interactivity (12 respondents), enable personalised learning (6), better prepare students for the labour market and digital reality (7), and save time by relieving teachers of routine tasks (9). One respondent described this potential as follows: “AI will be used for visualization, interactive learning, gamification of content, and – if properly implemented – will move teaching to a higher level” (R1). At the same time, they acknowledge risks related to uncritical use, ethical issues, and technical limitations, emphasising that “Critical thinking and responsibility are key – both for students and teachers” (R6).

A notable finding is the low level of systematic inter-school cooperation in the area of AI, despite individual interest. Active collaboration was reported by only two respondents, for example, “With interested colleagues, we created a small working group where we exchange experiences” (R17), while several others expressed a desire for greater exchange and mutual inspiration, noting that schools are still in the early stages of AI integration. Regarding the future role of teachers, the majority of AI users (15 respondents) anticipate a fundamental transformation of professional identity rather than replacement. Teachers are expected to shift from being providers of information to mentors or facilitators of learning, guiding students in the critical and responsible use of AI. This perspective is reflected in the statements “The teacher will become a mentor on the journey of discovery” (R6) and “The teacher will no longer be the bearer of information but will supervise its proper use” (R10).

AI users also strongly emphasise the need for systematic, practical, and differentiated professional development. They call for training based on concrete tools and classroom applications (12 respondents), the development of digital and AI-specific competences such as prompting and critical evaluation of outputs (10), subject-specific methodological training (7), and education in ethics, safety, and regulatory frameworks, including EU policies (5). Some respondents also highlight the importance of certified and systemically supported training programmes. This is illustrated by the statement, “Practical training focused on specific tools would help the most” (R17), and the view that “Education should be specific to individual groups of teachers, not general for everyone” (R3).

Overall, the findings for RQ3 show that both non-pioneers and AI users view AI as a supportive rather than substitutive tool and emphasise the continued centrality of the teacher. Non-pioneers

focus primarily on practical training needs, ethical rules, and safeguarding student independence, while AI users articulate a more transformative vision of teaching that includes mentorship, personalised learning, and systematic integration of AI into curricula and professional development. Both groups stress the importance of critical thinking, clear guidelines, and structured institutional support for the effective and responsible implementation of AI in VET.

In addition to the in-depth interviews, a nationwide survey was conducted in secondary VET schools, gathering responses from 208 teachers in Slovakia; 36.5% male and 62.5% female participants. The results indicate that nearly 70% of respondents are interested in AI-related training, as their current use of AI is largely limited to chatbots. Specifically, 40% reported regular use, 33.7% use them only minimally, and 26.4% do not use them at all. Moreover, almost 60% of teachers stated that they are unable to work with AI-based content-generation tools, 17.8% reported partial use, and fewer than 10% indicated proficient use. The most significant barriers to the implementation of AI in teaching were identified as a lack of training (48.1%), insufficient time to explore and verify AI-generated outputs (42.8%), concerns about the reliability of AI-generated content (42.3%), and the absence of clear guidelines and regulations for respondents (38.9%). The greatest perceived threats include students' excessive reliance on AI-generated content (74.5%), a negative impact on critical thinking (64.9%), and plagiarism (66.3%). Among personal barriers, respondents reported fear of the negative societal impact of AI development (38%), uncertainty about where to seek support when using AI tools in teaching (34.6%), and concerns about not being able to use AI tools effectively in teaching due to a lack of time to experiment with them (31.3%).

The findings confirm a clear gap between non-pioneers and AI users in experience, practice, and future perspectives on AI in VET. While most teachers recognize the potential of AI, its use remains limited and mainly supportive, with significant barriers related to training, time, infrastructure, and clear methodological guidance. Both qualitative and survey data highlight a strong demand for practical professional development, ethical frameworks, and systemic support to enable meaningful and responsible integration of AI into VET teaching.

Conclusion and Recommendations

Based on the findings, several recommendations can be formulated to support the effective, responsible, and sustainable integration of artificial intelligence as a VET teacher assistant. These recommendations operate across teacher, institutional, and systemic levels and reflect the needs and expectations expressed by VET teachers in Slovakia, while remaining applicable to the other countries participating in the project.

Strengthen practice-oriented professional development

Professional development should prioritise hands-on, practice-oriented training focused on concrete classroom applications of AI. Teachers repeatedly emphasised the need for training that develops practical skills such as lesson planning, content generation, assessment design, prompting techniques, and critical evaluation of AI outputs. Training should be differentiated according to

experience levels and customized to specific vocational subjects. Evidence from short training programmes for vocational teachers shows that such initiatives can improve prompting competence and critical evaluation skills while also demonstrating the need for continuous practice and sustained support (Schmitt & Brutzer, 2025). This confirms that one-off introductory workshops are not sufficient and should be replaced by long-term, supported professional development programmes.

Integrate ethical, critical, and responsible AI use into training

Training initiatives should systematically address ethical, legal, and pedagogical aspects of AI use, including data protection, copyright, bias, transparency, and responsible student use. Developing teachers' and students' critical thinking skills is essential to prevent uncritical reliance on AI-generated content. Clear guidance on ethical standards and responsible use should be embedded in both initial teacher education and continuing professional development. This is particularly important given the risks identified in the literature, such as unequal access to education, dependence on technology, lack of training for students and teachers, data-security concerns, variable AI output quality, and the potential loss of personal interaction and the human dimension of teaching (Tambuskar, 2022; Ge, 2024; Akinwalere & Ivanov, 2022; Bailey, 2023). Ethical guidance should therefore be embedded in initial teacher education as well as in continuing professional development.

Develop clear institutional guidelines and policies

Schools and VET institutions should establish transparent and practical guidelines defining acceptable AI use for teachers and students. Such policies reduce uncertainty, support pedagogical innovation, and provide a shared framework for responsible implementation. Institutional leadership plays a key role in fostering a supportive culture that encourages experimentation while maintaining pedagogical and ethical boundaries.

Improve institutional and technical support structures

Effective AI integration requires adequate infrastructure, including reliable internet access, modern hardware, and access to appropriate AI tools. Investment in modern technical infrastructure, expanded internet connectivity, and reliable power supply is essential for creating an enabling environment for AI integration (Usman, 2020, in Omenka et al., 2024). Collective licensing models or centrally supported AI services may reduce financial barriers and ensure equitable access. In parallel, schools should provide both technical and pedagogical support so that teachers can experiment with AI tools in a safe and supported context. These measures are particularly important in light of documented infrastructural inequalities across educational settings.

Foster professional communities and peer learning

The findings highlight the importance of informal learning and peer exchange. Establishing professional learning communities within and across schools can facilitate the sharing of good

practices, teaching scenarios, and lessons learned. Such collaboration can support non-pioneers, reduce professional isolation, and accelerate the diffusion of effective AI practices.

Align AI integration with VET curricula and labour-market needs.

AI should be integrated into VET in ways that are pedagogically meaningful and aligned with vocational profiles and labour-market developments. Curriculum developers and policymakers should embed AI-related competences such as digital literacy, AI awareness, and critical evaluation of digital tools into national VET learning outcomes. International evidence shows that AI can enhance student performance, enable virtual simulations, and support personalised learning, but also raises challenges related to costs, teacher readiness, and data security. Systemic measures such as teacher training, shared infrastructure, and supportive policies are therefore necessary to shift VET from standardised instruction toward more personalised, needs-based training (Zhang, 2024).

Support continuous research and iterative development

Given the rapid evolution of AI technologies, ongoing research, monitoring, and evaluation are necessary. Future studies should track changes in teachers' practices, institutional strategies, and student outcomes over time. Iterative feedback loops between research, pilot implementation, and resource development will help ensure that AI integration remains adaptive, evidence-based, and teacher-centred.

The study offers several strengths that also point to opportunities for further research and development. The qualitative component, based on in-depth interviews with 38 Slovak VET teachers, provides rich, context-sensitive insights into teachers' experiences, attitudes, and everyday practices with AI. The purposive sampling ensured diversity in subject specialisations, regions, and levels of AI engagement, allowing for a nuanced understanding of different stages of integration. While the findings are not intended to be statistically generalisable, their depth contributes to a detailed mapping of current conditions and professional needs within Slovak VET. The focus on teachers' perceptions and self-reported practices makes it possible to capture professional reasoning, concerns, and expectations that are often not visible through observational or quantitative methods. This perspective is particularly valuable in an emerging field such as AI integration, where teachers' beliefs, confidence, and agency play a central role in shaping integration processes. Future research can build on these insights by complementing them with classroom-based observations, student perspectives, and analyses of learning outcomes.

The findings also have implications for educational policy and regulatory frameworks. As AI technologies become more accessible in educational environments, national and institutional policies need to provide clear guidance regarding their pedagogical use, ethical boundaries, and data protection requirements. In the Slovak context, this includes the development of national methodological guidelines for AI use in VET schools, alignment with European Union digital education strategies, and the establishment of institutional policies that clarify acceptable AI practices for both teachers and students. Clear regulatory frameworks can reduce uncertainty, support responsible innovation, and ensure that AI integration in VET remains aligned with

educational values such as academic integrity, transparency, and equitable access to technology.

The research was conducted at a specific point during a period of rapid technological change. Rather than representing a limitation, this timing provides an important baseline for tracking the evolving role of AI in VET. The findings create a foundation for longitudinal studies that can examine how teachers' competences, institutional strategies, and pedagogical uses of AI develop over time. Although this paper focuses on the Slovak dataset, it is part of a wider transnational Erasmus+ project. Similar results were found in the partner countries Hungary, Germany, and Serbia, especially regarding the need for practical training, better infrastructure, ethical guidance, and clear institutional strategies. This consistency increases the credibility of the findings and indicates that the identified challenges and needs are not specific to Slovakia but reflect broader trends in European VET. Future comparative analyses will make it possible to examine contextual differences in more detail and identify transferable examples of good practice.

Building on the present findings, further research could employ mixed-method designs, longitudinal approaches, and cross-national comparisons to examine the impact of AI on teaching practices, student learning, and institutional transformation. Such studies would support the development of evidence-based strategies for the sustainable and pedagogically meaningful integration of AI in vocational education.

The findings from this study show a generally positive but cautious attitude toward AI and a clear distinction between active users and non-pioneers. Although teachers recognise AI's potential to support lesson preparation, assessment, and administrative tasks, its use remains largely individual, efficiency-oriented, and not yet systematically embedded in teaching practice. A key result is the strong demand for practice-oriented professional development focused on concrete classroom applications, prompting skills, and critical evaluation of AI outputs. From an ethical perspective, teachers are particularly concerned about plagiarism, the risk of overreliance on AI, data privacy, and the potential erosion of students' critical thinking.

Institutional factors significantly shape AI integration. As previously identified by the author (2025) in the context of higher education, particularly in English language and Anglophone cultures, similar barriers are evident in VET, including limited access to training, insufficient infrastructure, financial constraints, and the absence of clear guidelines. The author also points to broader risks, including unequal access, dependence on technology, data-security concerns, and the potential loss of human interaction, which also applies to VET. At the same time, AI is seen as creating opportunities for more personalised learning and for transforming the teacher's role toward mentorship and guidance in the critical use of digital tools.

Overall, successful AI integration in VET depends primarily on human and organisational factors. A teacher-centred, ethically grounded, and systemically supported approach is essential for turning AI into a meaningful pedagogical assistant that enhances teaching, learning, and professional practice in vocational education. Future research should also expand the demographic scope of the sample by including a broader representation of teachers across various VET schools and regions. Comparative cross-regional analyses within Slovakia as well as cross-national comparisons across

European VET systems could provide deeper insights into contextual differences in AI integration. In addition, longitudinal research designs would be particularly valuable for examining how teachers' competences, attitudes, and pedagogical uses of AI evolve over time and how AI integration influences teaching practices, institutional strategies, and student learning outcomes. Such approaches would contribute to a more comprehensive evidence base for the sustainable and responsible implementation of AI in vocational education.

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Understanding ESG Washing from the Stakeholders Viewpoint: Evidence from Indonesia

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Abstract
The increasing institutionalization of Environmental, Social, and Governance (ESG) practices has intensified corporate sustainability disclosures, yet growing concerns persist regarding the authenticity of such commitments. While prior research has largely focused on environmental greenwashing, limited attention has been given to broader and more nuanced forms of ESG-washing. This study addresses this gap by examining ESG-washing as a multidimensional phenomenon encompassing purpose washing, value washing, diversity washing, and pink washing. Adopting a qualitative, interpretive research design, the study draws on in-depth interviews with multiple stakeholder groups, including corporate insiders, ESG auditors and consultants, investors, and civil society representatives. Guided by legitimacy theory, signaling theory, and institutional theory, the findings reveal that ESG-washing manifests through systematic misalignments between ESG narratives and substantive organizational practices. Rather than isolated behaviors, the four forms of washing are shown to be mutually reinforcing, forming a coherent symbolic strategy aimed at maintaining legitimacy and managing stakeholder perceptions without meaningful integration of ESG principles. These symbolic practices undermine corporate sustainability by eroding stakeholder trust, distorting capital allocation, and weakening the governance role of ESG. The study contributes to the literature by advancing a unified analytical framework for understanding ESG-washing beyond greenwashing and highlighting its systemic nature. Practical implications are offered for regulators, investors, and firms seeking to enhance ESG credibility, accountability, and long-term sustainability outcomes.

Keywords: *ESG washing, environmental practices, social practices, governance practices, stakeholders, Indonesia*

JEL Classification: M14, Q56, G34, D82

Introduction

In recent years, Environmental, Social, and Governance (ESG) considerations have become central to corporate strategy, investment decision-making, and stakeholder evaluation. Corporations are increasingly expected to demonstrate not only financial performance but also responsible conduct toward the environment, society, and governance structures (Al frijat et al., 2025; Bhattacharjee et al., 2025). This shift has been driven by growing awareness of climate change, social inequality, ethical governance failures, and increasing demand for sustainable long-term value creation. As a result, ESG disclosures, sustainability reports, and corporate purpose statements have proliferated across industries and regions, positioning ESG as a key indicator of corporate legitimacy and competitiveness in the global markets.

However, alongside the rapid institutionalization of ESG, concerns have emerged regarding the authenticity and substance of corporate ESG commitments. While many companies publicly emphasize sustainability, inclusivity, and ethical values, evidence suggests that not all ESG-related practices reflect genuine organizational transformation (Alhazemi, 2025; Gidage, 2025; Sklavos et al., 2025; Yadav & Yadav, 2025). Instead, some firms engage in symbolic actions that create the appearance of responsibility without corresponding changes in underlying strategies, operations, or outcomes. This phenomenon, commonly referred to as ESG-washing, raises critical questions about the credibility of corporate sustainability efforts and their capacity to deliver meaningful environmental and social outcomes.

ESG-washing extends beyond the well-documented concept of greenwashing, which focuses primarily on misleading environmental claims. Contemporary ESG-washing encompasses a broader range of practices, including purpose washing, value washing, diversity washing, and pink washing (Perissinotto, 2023). These practices involve the strategic use of ESG-related narratives to enhance corporate image, attract investors, or manage stakeholder perceptions, while substantive ESG performance remains limited or inconsistent. As ESG becomes increasingly embedded in regulatory frameworks, capital markets, and corporate governance mechanisms, understanding the multidimensional nature of ESG-washing becomes increasingly essential.

Despite growing recognition of ESG-washing, much of the existing literature remains fragmented. Prior studies have predominantly focused on greenwashing (Bulut et al., 2021), with limited attention to the broader spectrum of ESG-washing practices. Research on purpose washing, value washing, diversity washing, and pink washing often appears in isolated streams, lacking an integrated framework that captures their interconnections and collective impact on corporate sustainability. Moreover, empirical studies frequently rely on ESG ratings or aggregate disclosure scores, which may fail to detect symbolic behavior embedded in qualitative narratives and strategic communications.

To address these gaps, this study seeks to answer the following research questions:

- RQ1: How do purpose washing, value washing, diversity washing, and pink washing manifest in corporate ESG practices?
- RQ2: How do these symbolic ESG practices collectively undermine corporate sustainability and stakeholder trust?

By integrating purpose washing, value washing, diversity washing, and pink washing within a unified analytical framework, this research advances the understanding of how ESG-washing undermines corporate sustainability. Rather than treating ESG-washing as a marginal or

exceptional practice, this study positions it as a systemic risk arising from the increasing institutionalization and commercialization of ESG.

Literature Review

ESG Disclosure and Symbolic Versus Substantive Practices

The distinction between symbolic and substantive corporate behavior is central to understanding ESG-washing. Symbolic actions refer to activities aimed at managing perceptions and legitimacy without altering core organizational practices, whereas substantive actions involve tangible changes in strategy, operations, and outcomes (Marculetiu et al., 2025; Tobón-Orozco et al., 2025). Drawing on legitimacy theory, firms may adopt ESG disclosures as a means of conforming to societal expectations and maintaining social acceptance, particularly when facing external scrutiny or legitimacy threats.

Empirical research suggests that ESG disclosures are frequently decoupled from actual performance (Chan et al., 2025; Ferdous et al., 2025; Muhammad & Aman, 2025; Zhan et al., 2025). For instance, studies have found weak correlations between ESG ratings and real environmental or social outcomes (Agnese et al., 2025; van Zanten, 2025), indicating that high ESG scores do not necessarily reflect superior sustainability performance. This decoupling is reinforced by signaling theory, which highlights how firms use ESG narratives to send positive signals to investors under conditions of information asymmetry. When signaling is not supported by verifiable actions, ESG-washing emerges as a strategic response rather than an indicator of genuine commitment.

Greenwashing and the Expansion to ESG-Washing

The concept of greenwashing has been extensively examined in the sustainability literature, primarily focusing on misleading environmental claims. Greenwashing is defined as the selective disclosure of positive environmental information while concealing negative impacts or inaction (Bhagat, 2024; Free et al., 2024; Santos et al., 2025; Yildirim, 2023; Urbański, & Haque, 2020). While early studies concentrated on environmental messaging in marketing and advertising, recent research has expanded the scope to include corporate reporting and ESG disclosures.

This expansion has given rise to the broader concept of ESG-washing, which encompasses not only environmental misrepresentation but also symbolic practices within the social and governance dimensions. Scholars argue that as ESG frameworks become more comprehensive and institutionalized (Chopra et al., 2024; Liang et al., 2025), firms may engage in more sophisticated forms of washing that are harder to detect. ESG-washing thus represents an evolution of greenwashing, reflecting the growing complexity of sustainability narratives and stakeholder expectations.

Purpose Washing and Value Washing

Purpose washing has gained attention alongside the rise of corporate purpose and stakeholder capitalism. Corporate purpose statements are increasingly used to signal alignment with social and environmental goals. However, critics argue that many purpose statements lack operational integration and measurable outcomes. Purpose washing occurs when firms articulate aspirational missions without embedding them into governance structures, incentive systems, or strategic priorities (Perissinotto, 2023).

Value washing similarly involves the symbolic adoption of ethical or sustainability-oriented values. While values such as integrity, transparency, and responsibility are frequently highlighted in corporate communications, empirical evidence suggests that these values are often weakly enforced or inconsistently applied. Value washing exploits the abstract and normative nature of values, making it difficult for stakeholders to assess authenticity. Both purpose and value washing contribute to ESG-washing by creating a narrative of responsibility that is not supported by substantive behavior (Perissinotto, 2023).

Diversity Washing and Pink Washing

Within the social dimension of ESG, diversity washing has emerged as a prominent concern. Diversity and inclusion disclosures have become common, particularly regarding gender representation and leadership diversity. However, research indicates that such disclosures often focus on symbolic indicators, such as board composition, while neglecting broader issues such as wage inequality, career progression, and organizational culture. Diversity washing thus reflects a narrow and superficial approach to social responsibility (Perissinotto, 2023).

Pink washing represents a more targeted form of social washing, involving the promotion of LGBTQ+ inclusion as a means of enhancing corporate image. While visible support for equality initiatives may signal progressiveness, critics argue that pink washing can obscure deeper governance or human rights issues. Pink washing highlights how ESG narratives can be selectively deployed to appeal to specific stakeholder groups, reinforcing the strategic and instrumental use of ESG communications (Perissinotto, 2023).

Research Methodology

Research Design

This study adopts a qualitative, interpretive research design based on in-depth interviews with key stakeholders to explore how ESG-washing – specifically purpose washing, value washing, diversity washing, and pink washing that undermines corporate sustainability. A stakeholder-based interview approach is appropriate because ESG-washing is not only embedded in corporate disclosures but also is experienced, interpreted, and contested by actors who interact directly with corporate ESG practices. Interviews allow the study to capture perceptions, interpretations, and lived experiences that cannot be observed through secondary data alone.

By engaging multiple stakeholder groups, the study seeks to uncover discrepancies between formal ESG narratives and perceived organizational realities, thereby offering deeper insight into symbolic versus substantive ESG practices.

Stakeholder Selection and Sampling Strategy

The study employs purposive and theoretical sampling to select stakeholders with direct knowledge of corporate ESG practices. Stakeholders are chosen based on their involvement in ESG-related decision-making, monitoring, or evaluation. The sample includes four primary stakeholder groups:

- Corporate insiders, such as sustainability managers, compliance officers, and senior executives involved in ESG strategy and reporting.

- External auditors and consultants, including ESG assurance providers and sustainability advisors who assess ESG disclosures and implementation.
- Investors and analysts, particularly those integrating ESG criteria into investment decision-making.
- Civil society stakeholders, such as NGO representatives, labor union members, and advocacy groups focused on environmental or social issues.

This multi-stakeholder approach enables triangulation of perspectives and reduces reliance on a single narrative. Interviews continue until theoretical saturation is achieved, defined as the point at which additional interviews no longer yield new analytical insights. The final sample includes 10 semi-structured interviews, consistent with qualitative research standards. Although the sample size is relatively small, the study remains appropriate to proceed, as Sarfo et al. (2021) indicate that there is no fixed rule regarding the number of participants required in a case study.

Data Collection Procedure

Data are collected through semi-structured interviews, allowing flexibility to explore emerging themes while maintaining consistency across interviews. An interview protocol is developed based on the ESG-washing framework and relevant theories (legitimacy, signaling, and institutional theory). Key interview topics include perceptions of corporate ESG commitments, experiences with ESG implementation, assessment of ESG credibility, and observed discrepancies between ESG narratives and practices. Interviews are conducted in person. Each interview lasts between 60 and 90 minutes.

Analytical Framework and Coding Strategy

The analysis follows a thematic analysis approach, combining deductive and inductive coding. Deductive codes are derived from the four ESG-washing dimensions: (1) purpose washing; (2) value washing; (3) diversity washing; and (4) pink washing. These predefined categories guide initial coding while remaining open to refinement. Inductive coding is then applied to capture emergent themes that reflect stakeholders lived experiences and contextual interpretations. Coding is conducted in three stages. First, open coding identifies meaningful segments related to ESG narratives and practices. Second, axial coding explores relationships between symbolic disclosures, organizational behavior, and stakeholder perceptions. Third, selective coding integrates themes into a coherent explanation of how ESG-washing manifests and affects corporate sustainability.

Assessing Symbolic Versus Substantive ESG Practices

To distinguish symbolic ESG practices from substantive ones, the study examines interview data for indicators such as: (1) emphasis on narratives or branding without operational follow-through; (2) absence of measurable ESG targets or accountability mechanisms; (3) selective visibility of ESG initiatives while ignoring systemic issues; and (4) stakeholder perceptions of misalignment between ESG rhetoric and actual outcomes. Stakeholder accounts are compared across groups to identify convergence and divergence in perceptions. Consistent patterns of perceived misalignment are interpreted as evidence of ESG-washing.

Findings and Discussions

Purpose Washing: The Decoupling of Purpose from Strategy and Accountability

Purpose washing is highly relevant in Indonesia and reflects structural and institutional dynamics that shape how corporate sustainability and stakeholder capitalism are interpreted and practiced. While Indonesian firms increasingly adopt corporate purpose statements aligned with sustainability, shared value, and national development narratives, empirical evidence suggests that these purpose claims often remain symbolic and weakly embedded in organizational decision-making. As such, purpose washing in Indonesia is not merely a matter of ineffective communication but constitutes a manifestation of strategic decoupling between rhetoric and practice.

In the Indonesian context, corporate purpose is frequently articulated through broad and morally appealing language, such as "contributing to national development," "creating shared prosperity," or "supporting sustainable growth." These narratives resonate strongly with societal expectations and regulatory discourse, particularly for state-owned enterprises (SOEs) and large conglomerates. From a legitimacy theory perspective, such purpose statements function as moral justifications that align firms with national priorities, ESG norms, and global sustainability frameworks. However, this alignment often remains superficial when purpose is not translated into concrete strategic priorities, capital allocation decisions, or performance measurement systems.

Purpose washing in Indonesia is reinforced by governance structures that prioritize short-term financial performance and political considerations over long-term value creation. Board oversight of sustainability and purpose remains limited in many firms, with ESG often positioned as a reporting or compliance function rather than a strategic one. Executive incentives are typically tied to financial indicators, while purpose-related objectives are absent or weakly enforced. As a result, purpose statements exist alongside, rather than within, core governance and risk management processes, enabling symbolic adoption without substantive change.

Institutional conditions further exacerbate this decoupling. Regulatory requirements for sustainability reporting in Indonesia emphasize disclosure rather than outcomes, creating incentives for firms to articulate aspirational purpose narratives without corresponding operational commitments. Moreover, enforcement mechanisms remain uneven, allowing companies to gain reputational benefits from purpose signaling with relatively low risk of sanction. This environment encourages firms to prioritize symbolic legitimacy, meeting societal and regulatory expectations, while maintaining instrumental rationality focused on efficiency, growth, and profitability.

The findings also suggest that purpose washing undermines the transformative potential of sustainability in Indonesia. Purpose is intended to guide decision-making during moments of tension, such as balancing profitability with environmental protection, labor rights, or community impacts. However, interview evidence indicates that when such trade-offs arise, Indonesian firms often default to short-term financial logic, revealing the fragility of purpose-driven claims. This dynamic weakens the strategic role of sustainability by positioning it as a secondary consideration rather than a core driver of corporate behavior.

Purpose washing in Indonesia does not merely mislead stakeholders; it actively shapes organizational priorities by neutralizing purpose as a tool for change. When purpose is treated as aspirational branding rather than as a governance mechanism, it loses its capacity to influence investment decisions, risk assessments, and performance evaluation. Consequently, sustainability becomes fragmented and reactive, rather than integrated and forward-looking.

Value Washing: Ethical Symbolism and Organizational Moral Disengagement

Value washing is highly relevant in Indonesia and represents one of the most pervasive yet least visible forms of ESG-washing. Unlike purpose or impact claims that are often externally oriented, corporate values in Indonesia are deeply embedded in organizational rhetoric, codes of conduct, and sustainability narratives. Terms such as integrity, transparency, responsibility, professionalism, and accountability are widely adopted across state-owned enterprises, listed companies, and family-controlled firms. However, evidence from stakeholder experiences suggests that these values frequently function as symbolic commitments rather than as binding principles guiding everyday decision-making.

In the Indonesian corporate context, values are often formalized through mission statements, employee handbooks, ethics codes, and ESG disclosures to signal compliance with governance norms and international standards. Yet, these values are commonly abstracted from operational realities. Decision-making related to procurement, labor management, political connections, or environmental compliance may proceed in ways that contradict stated values, without triggering internal sanctions or governance consequences. This disconnect illustrates value washing as a form of moral neutralization, where ethical language is preserved to protect organizational self-image while contradictory practices are rationalized as “pragmatic,” “situational,” or “necessary for business survival.”

Institutional theory provides a particularly strong explanation for the prevalence of value washing in Indonesia. As ESG norms diffuse through regulatory guidance, stock exchange requirements, and investor expectations, companies face increasing pressure to demonstrate alignment with global governance ideals. In response, many organizations adopt values ceremonially to achieve legitimacy rather than to transform behavior. This is reinforced by a compliance-oriented corporate culture, where documentation and formal adherence are often prioritized over substantive implementation. Values thus become institutional checkboxes that are present in policies and reports but weakly enforced in practice.

Cultural and structural factors further amplify value washing. High power distance and hierarchical organizational structures can discourage employees from challenging decisions that violate stated values, particularly when such decisions are made by senior management or controlling families. Whistleblowing mechanisms, while increasingly formalized, are often perceived as risky or ineffective. As a result, inconsistencies between values and actions are normalized internally rather than framed as governance failures. This normalization aligns with the concept of organizational hypocrisy, where “talk, decisions, and actions” are decoupled but accepted as part of organizational

life.

From a stakeholder perspective, value washing in Indonesia erodes trust over time. Employees may become cynical when values such as integrity or transparency are invoked in corporate communications but ignored in promotion decisions, performance evaluations, or conflict resolution. External stakeholders – including investors, auditors, and civil society, they may interpret recurring inconsistencies as evidence that ESG values lack enforcement power. This perception weakens the credibility of sustainability initiatives and undermines the ethical dimension of corporate governance.

Diversity Washing: From Representation to Performative Inclusion

Diversity washing is highly relevant in Indonesia and represents one of the most visible yet subtle forms of ESG-washing within the country's corporate landscape. While Indonesian firms increasingly emphasize diversity and inclusion in sustainability disclosures, stakeholder perceptions suggest that many of these initiatives remain performative rather than transformative. Improvements in visible indicators, particularly gender representation at the board or managerial level, are often acknowledged, however they rarely translate into deeper structural change related to power distribution, equitable participation, or inclusive organizational culture.

In the Indonesian context, diversity is most commonly framed through gender diversity, followed by nationality or professional background, while other dimensions such as ethnicity, disability, or minority status receive limited attention. This selective framing reflects both regulatory incentives and cultural sensitivities. Gender representation, especially the presence of women on boards, has become a highly reportable metric aligned with global ESG frameworks and investor expectations. As a result, firms may appoint a small number of women to leadership positions to signal progressiveness, while decision-making authority and strategic influence remain concentrated within existing elite networks. This dynamic illustrates how representation can substitute for empowerment, a core characteristic of diversity washing.

Diversity washing in Indonesia is further reinforced by metric-driven ESG regimes. ESG ratings, sustainability indices, and reporting standards tend to reward easily observable and comparable indicators, encouraging firms to prioritize compliance over substance. Stakeholders often perceive diversity initiatives as box-ticking exercises designed to enhance corporate reputation rather than address systemic inequalities such as unequal promotion pathways, wage gaps, limited access to leadership development, or informal exclusion from strategic decision-making. Consequently, diversity becomes a branding exercise rather than a governance issue embedded in organizational processes.

Cultural and institutional factors also shape how diversity washing manifests in Indonesia. Corporate hierarchies are often characterized by strong power distance, seniority-based authority, and informal patronage networks. Within such structures, symbolic inclusion at the top does not necessarily disrupt entrenched power relations. Diversity narratives may therefore coexist with workplace practices that marginalize dissenting voices, limit upward mobility for underrepresented

groups, or discourage open dialogue about inequality. This coexistence reinforces stakeholder perceptions that diversity initiatives are more about visibility than inclusion.

From a sustainability perspective, diversity washing poses long-term risks for Indonesian firms. Inclusive organizations are empirically associated with higher innovation capacity, stronger employee engagement, and greater adaptability in times of uncertainty. When diversity is reduced to a reputational signal, companies forgo these benefits and risk internal disengagement, talent attrition, and reputational backlash, particularly as younger employees and global stakeholders become more attentive to authenticity in ESG practices. While domestic resistance may remain muted, international scrutiny can expose gaps between disclosure and practice.

Pink Washing: Selective Social Responsibility and Strategic Signaling

Pink washing is relevant in Indonesia, but it manifests in a highly contextualized and indirect form shaped by cultural norms, religious values, political sensitivities, and regulatory ambiguity. Unlike in many Western contexts where corporations openly express support for LGBTQ+ rights through explicit campaigns, Indonesian firms tend to avoid direct advocacy. However, this does not eliminate pink washing; rather, it transforms it into a subtler practice that is embedded within broader ESG and diversity narratives, particularly those aimed at international audiences.

In Indonesia, corporate references to inclusion are often framed using neutral and universal terms such as “diversity,” “tolerance,” “respect,” or “global values,” without explicit mention of sexual orientation or gender identity. These narratives frequently appear in sustainability reports, annual reports, or ESG disclosures aligned with global frameworks such as the GRI or UN SDGs. While such language signals alignment with international norms, it is rarely accompanied by concrete internal policies, such as explicit anti-discrimination clauses, grievance mechanisms for marginalized groups, or measurable diversity targets. This gap between symbolic communication and operational practice reflects the essence of pink washing as selective social signaling.

Pink washing in Indonesia is also characterized by temporal and geographic selectivity. Inclusion-related narratives tend to intensify during periods of heightened international visibility, such as foreign investment roadshows, cross-border partnerships, or ESG rating assessments. Similarly, companies with multinational operations may promote inclusive values in overseas markets while remaining silent in domestic contexts. This selective disclosure suggests that inclusion is treated as a reputational tool rather than an integrated social commitment. From a signaling theory perspective, these practices function as low-cost signals directed at global investors, multinational partners, and ESG rating agencies that increasingly value social justice narratives. When such signals are not supported by consistent labor protections, freedom of association, or transparent governance practices, their informational value diminishes and may become misleading.

Pink washing in Indonesia rarely operates in isolation. It often coexists with unresolved social issues, including precarious employment, limited union representation, gender pay gaps, and weak enforcement of labor standards. By highlighting selective inclusion narratives while avoiding systemic reforms, companies fragment the social dimension of ESG into disconnected initiatives.

This issue cherry-picking undermines the holistic nature of ESG, which is intended to address structural risks and long-term sustainability rather than short-term reputational gains.
Nevertheless, stakeholder responses in Indonesia are mixed. While global investors and international stakeholders may perceive inclusion narratives positively, domestic stakeholders often respond with silence rather than endorsement or resistance. This silence does not necessarily indicate acceptance; instead, it reflects cultural sensitivity and limited space for open discourse on LGBTQ+ issues.

Interactions Among ESG-Washing Dimensions

A critical insight from this study is that purpose washing, value washing, diversity washing, and pink washing are mutually reinforcing rather than independent phenomena. Purpose narratives legitimize value claims, values justify selective diversity initiatives, and social inclusion narratives mask governance failures. Together, these practices form a coherent symbolic strategy that maintains legitimacy without demanding substantive transformation.

This interaction suggests that ESG-washing should be understood as a systemic organizational response to ESG institutionalization, rather than as isolated misconduct. As ESG expectations intensify, firms may respond by expanding the scope and sophistication of symbolic practices rather than by deepening substantive change. This finding challenges the assumption that increased ESG disclosure automatically leads to improved sustainability outcomes.

Conclusion and Recommendations

This study set out to examine how ESG-washing that specifically purpose washing, value washing, diversity washing, and pink washing operates in practice. Drawing on in-depth interviews with multiple stakeholder groups, the findings demonstrate that ESG-washing is not an isolated or accidental practice, but a systemic response to increasing ESG-related pressures. Rather than reflecting genuine organizational transformation, ESG-washing manifests through symbolic narratives that prioritize legitimacy, reputation, and signaling over substantive integration of ESG principles into corporate strategy and governance.

The study contributes to the ESG literature by conceptualizing ESG-washing as a multidimensional phenomenon that extends beyond environmental greenwashing. Purpose washing weakens the strategic role of corporate purpose by decoupling aspirational narratives from decision-making and accountability. Value washing transforms ethical commitments into symbolic artifacts that lack enforcement power. Diversity washing reduces inclusion to performative representation, while pink washing illustrates selective and opportunistic approaches to social responsibility. Collectively, these practices erode stakeholder trust and undermine the capacity of ESG to function as a mechanism for sustainable value creation.

From a theoretical perspective, this research advances legitimacy, signaling, and institutional theories by demonstrating how symbolic ESG practices evolve alongside the institutionalization of ESG. As ESG becomes embedded in capital markets and regulatory frameworks, firms

increasingly adopt sophisticated narrative strategies to manage external expectations. ESG-washing thus emerges as a dynamic governance challenge rather than a temporary deviation. By integrating multiple forms of washing within a unified analytical framework, this study addresses fragmentation in prior research and offers a more holistic understanding of ESG credibility.

The findings also carry important practical implications. For corporate leaders, the study highlights the risks of relying on symbolic ESG practices, which may yield short-term reputational benefits but expose firms to long-term legitimacy and sustainability risks. For investors and analysts, the results underscore the need to move beyond surface-level ESG disclosures and critically assess how ESG commitments are embedded in strategy, incentives, and organizational processes. For regulators and standard setters, the study suggests that enhanced disclosure requirements alone are insufficient to address ESG-washing unless accompanied by stronger governance mechanisms, assurance practices, and accountability structures. Specifically, ESG regulators should move beyond disclosure volume by mandating outcome-based metrics, independent assurance, and consistency checks between ESG narratives and operational practices, while strengthening enforcement mechanisms to detect and sanction symbolic ESG-washing across environmental, social, and governance dimensions. Regulators should create the regulation about reasonable level third party assurance over both quantitative metrics and qualitative ESG claims, introduce mandatory reconciliation between ESG disclosure and financial statements, and impose executive certification of ESG reports similar to financial reporting requirements. Furthermore, regulatory initiatives such as the EU Green Claims Directive demonstrate the feasibility of requiring substation of sustainability related claims prior to public communication; similar verification mechanisms should be extended beyond environmental claims to encompass corporate purpose, diversity, and social responsibility commitments.

Despite its contributions, this study is subject to several limitations. First, the research relies on qualitative interview data, which capture stakeholder perceptions rather than directly measuring actual ESG performance. While stakeholder perspectives provide valuable insights into the credibility of ESG practices, they may be influenced by individual experiences, roles, or expectations. Second, the study focuses on a limited number of organizations and industries, which may constrain the generalizability of the findings. Third, although the multi-stakeholder approach enhances triangulation, power dynamics among stakeholder groups may shape the narratives presented during interviews. Additionally, the study examines ESG-washing primarily through the lens of corporate behavior and stakeholder interpretation, without incorporating longitudinal analysis of ESG outcomes. As such, it cannot fully assess how symbolic ESG practices evolve over time or how they affect long-term sustainability performance.

Future research can build on this study in several ways. First, quantitative and mixed-method approaches could complement qualitative findings by examining the relationship between ESG-washing indicators and financial or sustainability outcomes. Second, longitudinal studies would provide deeper insight into how ESG-washing practices develop, intensify, or diminish in response to regulatory changes and stakeholder scrutiny. Third, comparative studies across countries or regions could explore how institutional contexts shape the prevalence and forms of ESG-washing, particularly in emerging markets. Future research may also investigate the role of ESG assurance,

internal governance mechanisms, and digital reporting technologies in mitigating ESG-washing. Finally, expanding the analysis to include additional forms of social or governance washing could further enrich our understanding of how ESG narratives are strategically constructed.

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